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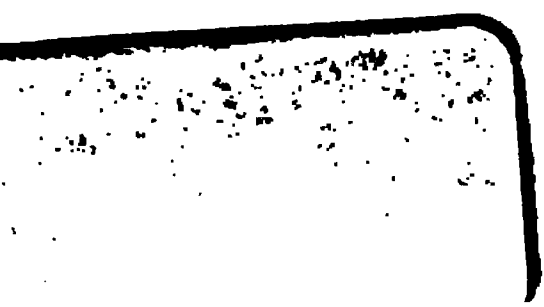
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MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES

TO THE

TWO HOUSES OF CONGRESS

AT THE COMMENCEMENT OF THE

SECOND SESSION OF THE FORTY-EIGHTH CONGRESS,

WITH THE

REPORTS OF THE HEADS OF DEPARTMENTS

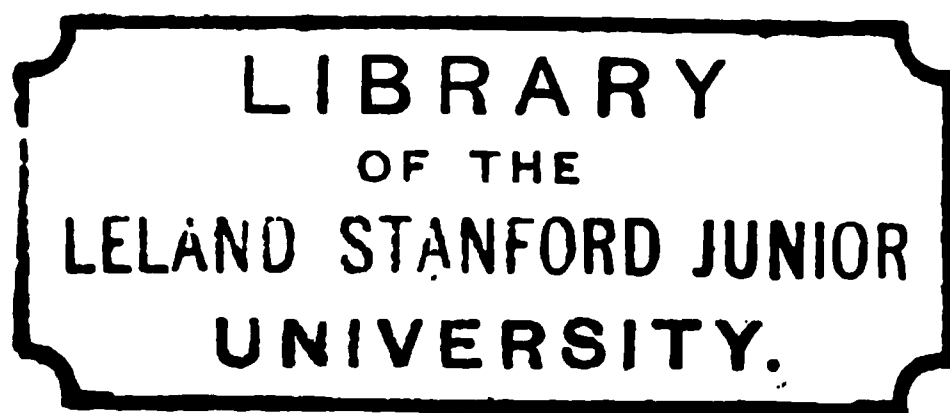
AND

SELECTIONS FROM ACCOMPANYING DOCUMENTS.

EDITED BY

BEN: PERLEY POORE.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1884.



A. 8083

Prepared in accordance with the provisions of the Revised Statutes, approved June 23, 1874.

SEC. 75. The Joint Committee on Public Printing shall appoint a competent person, who shall edit such portion of the documents accompanying the annual reports of the Departments as they may deem suitable for popular distribution, and prepare an alphabetical index thereto.

* * * * *

SEC. 196. The head of each Department, except the Department of Justice, shall furnish to the Congressional Printer copies of the documents usually accompanying his annual report on or before the first day of November in each year, and a copy of his annual report on or before the third Monday of November in each year.

* * * * *

SEC. 3798. Of the documents named in this section there shall be printed and bound, in addition to the usual number for Congress, the following number of copies, namely:

* * * * *

Second. Of the President's message, the annual reports of the Executive Departments, and the abridgment of accompanying documents, unless otherwise ordered by either house, ten thousand copies for the use of the members of the Senate and twenty-five thousand copies for the use of the members of the House of Representatives.

MESSAGE.

To the Congress of the United States:

Since the close of your last session the American people, in the exercise of their highest right of suffrage, have chosen their Chief Magistrate for the four years ensuing.

When it is remembered that at no period in the country's history has the long political contest which customarily precedes the day of the national election been waged with greater fervor and intensity, it is a subject of general congratulation that after the controversy at the polls was over, and while the slight preponderance by which the issue had been determined was as yet unascertained, the public peace suffered no disturbance, but the people everywhere patiently and quietly awaited the result.

Nothing could more strikingly illustrate the temper of the American citizen, his love of order, and his loyalty to law—nothing could more signally demonstrate the strength and wisdom of our political institutions.

Eight years have passed since a controversy concerning the result of a national election sharply called the attention of the Congress to the necessity of providing more precise and definite regulations for counting the electoral vote.

It is of the gravest importance that this question be solved before conflicting claims to the Presidency shall again distract the country, and I am persuaded that, by the people at large, any of the measures of relief thus far proposed would be preferred to continued inaction.

Our relations with all foreign powers continue to be amicable.

With Belgium a convention has been signed whereby the scope of present treaties has been so enlarged as to secure to citizens of either country within the jurisdiction of the other equal rights and privileges in the acquisition and alienation of property. A trade-marks treaty has also been concluded.

The war between Chili and Peru is at an end. For the arbitration of the claims of American citizens who during its continuance suffered through the acts of the Chilian authorities a convention will soon be negotiated.

The state of hostilities between France and China continues to be an embarrassing feature of our Eastern relations. The Chinese Government has promptly adjusted and paid the claims of American citizens whose property was destroyed in the recent riots at Canton. I renew the recommendation of my last annual message, that the Canton indemnity fund be returned to China.

The true interpretation of the recent treaty with that country, permitting the restriction of Chinese immigration, is likely to be again the subject of your deliberations. It may be seriously questioned whether the statute passed at the last session does not violate the treaty rights of certain Chinese who left this country with return certificates valid under the old law and who now seem to be debarred from relanding for lack of the certificates required by the new.

The recent purchase by citizens of the United States of a large trading fleet heretofore under the Chinese flag has considerably enhanced our commercial importance in the East. In view of the large number of vessels built or purchased by American citizens in other countries and exclusively employed in legitimate traffic between foreign ports under the recognized protection of our flag, it might be well to provide a uniform rule for their registration and documentation, so that the *bona fide* property rights of our citizens therein shall be duly evidenced and properly guarded.

Pursuant to the advice of the Senate at the last session, I recognized the flag of the International Association of the Congo as that of a friendly government, avoiding in so doing any prejudgment of conflicting territorial claims in that region. Subsequently, in execution of the expressed wish of the Congress, I appointed a commercial agent for the Congo Basin.

The importance of the rich prospective trade of the Congo Valley has led to the general conviction that it should be open to all nations upon equal terms. At an international conference for the consideration of this subject called by the Emperor of Germany, and now in session at Berlin, delegates are in attendance on behalf of the United States. Of the results of the conference you will be duly advised.

The Government of Corea has generously aided the efforts of the United States minister to secure suitable premises for the use of the legation. As the conditions of diplomatic intercourse with Eastern nations demand that the legation premises be owned by the represented power, I advise that an appropriation be made for the acquisition of this property by the Government. The United States already possess valuable premises at Tangier as a gift from the Sultan of Morocco. As is stated hereafter, they have lately received a similar gift from the Siamese Government. The Government of Japan stands ready to pre-

sent to us extensive grounds at Tokio whereon to erect a suitable building for the legation, court-house, and jail; and similar privileges can probably be secured in China and Persia. The owning of such premises would not only effect a large saving of the present rentals but would permit of the due assertion of extraterritorial rights in those countries, and would the better serve to maintain the dignity of the United States.

The failure of Congress to make appropriation for our representation at the autonomous court of the Khedive has proved a serious embarrassment in our intercourse with Egypt; and in view of the necessary intimacy of diplomatic relationship due to the participation of this Government, as one of the treaty powers, in all matters of administration there affecting the rights of foreigners, I advise the restoration of the agency and consulate-general at Cairo on its former basis. I do not conceive it to be the wish of Congress that the United States should withdraw altogether from the honorable position they have hitherto held with respect to the Khedive, or that citizens of this republic residing or sojourning in Egypt should hereafter be without the aid and protection of a competent representative.

With France, the traditional cordial relationship continues. The colossal statue of Liberty enlightening the World, the generous gift of the people of France, is expected to reach New York in May next. I suggest that Congressional action be taken in recognition of the spirit which has prompted this gift, and in aid of the timely completion of the pedestal upon which it is to be placed.

Our relations with Germany, a country which contributes to our own some of the best elements of citizenship, continue to be cordial. The United States have extradition treaties with several of the German states, but by reason of the confederation of those states under the Imperial rule, the application of such treaties is not as uniform and comprehensive as the interests of the two countries require. I propose, therefore, to open negotiations for a single convention of extradition to embrace all the territory of the Empire.

It affords me pleasure to say that our intercourse with Great Britain continues to be of a most friendly character.

The Government of Hawaii has indicated its willingness to continue for seven years the provisions of the existing reciprocity treaty. Such continuance, in view of the relations of that country to the American system of States, should in my judgment be favored.

The revolution in Hayti against the established government has terminated. While it was in progress it became necessary to enforce

our neutrality laws by instituting proceedings against individuals and vessels charged with their infringement. These prosecutions were in all cases successful.

Much anxiety has lately been displayed by various European governments, and especially by the Government of Italy for the abolition of our import duties upon works of art. It is well to consider whether the present discrimination in favor of the productions of American artists abroad is not likely to result, as they themselves seem very generally to believe it may, in the practical exclusion of our painters and sculptors from the rich fields for observation, study, and labor which they have hitherto enjoyed.

There is prospect that the long-pending revision of the foreign treaties of Japan may be concluded at a new conference to be held at Tokio. While this Government fully recognizes the equal and independent station of Japan in the community of nations, it would not oppose the general adoption of such terms of compromise as Japan may be disposed to offer in furtherance of a uniform policy of intercourse with Western nations.

During the past year the increasing good-will between our own Government and that of Mexico has been variously manifested. The treaty of commercial reciprocity concluded January 20, 1883, has been ratified, and awaits the necessary tariff legislation of Congress to become effective. This legislation will, I doubt not, be among the first measures to claim your attention.

A full treaty of commerce, navigation, and consular rights is much to be desired, and such a treaty I have reason to believe that the Mexican Government stands ready to conclude.

Some embarrassment has been occasioned by the failure of Congress at its last session to provide means for the due execution of the treaty of July 29, 1882, for the resurvey of the Mexican boundary and the relocation of boundary monuments.

With the Republic of Nicaragua a treaty has been concluded which authorizes the construction by the United States of a canal, railway, and telegraph line across the Nicaraguan territory.

By the terms of this treaty sixty miles of the river San Juan, as well as Lake Nicaragua, an inland sea forty miles in width, are to constitute a part of the projected enterprise.

This leaves for actual canal construction seventeen miles on the Pacific side and thirty-six miles on the Atlantic. To the United States, whose rich territory on the Pacific is for the ordinary purposes of commerce practically cut off from communication by water with the Atlantic ports, the political and commercial advantages of such a project can scarcely be overestimated.

It is believed that when the treaty is laid before you the justice and liberality of its provisions will command universal approval at home and abroad.

The death of our representative at Russia while at his post at St. Petersburg afforded to the Imperial Government a renewed opportunity to testify its sympathy in a manner befitting the intimate friendliness which has ever marked the intercourse of the two countries.

The course of this Government in raising its representation at Bangkok to the diplomatic rank has evoked from Siam evidences of warm friendship and augurs well for our enlarged intercourse. The Siamese Government has presented to the United States a commodious mansion and grounds for the occupancy of the legation, and I suggest that by joint resolution Congress attest its appreciation of this generous gift.

This Government has more than once been called upon of late to take action in fulfillment of its international obligations toward Spain. Agitation in the island of Cuba hostile to the Spanish crown having been fomented by persons abusing the sacred rights of hospitality which our territory affords, the officers of this Government have been instructed to exercise vigilance to prevent infractions of our neutrality laws at Key West and at other points near the Cuban coast. I am happy to say that in the only instance where these precautionary measures were successfully eluded, the offenders when found in our territory were subsequently tried and convicted.

The growing need of close relationship of intercourse and traffic between the Spanish Antilles and their natural market in the United States led to the adoption, in January last, of a commercial agreement looking to that end. This agreement has since been superseded by a more carefully framed and comprehensive convention, which I shall submit to the Senate for approval. It has been the aim of this negotiation to open such a favored reciprocal exchange of productions carried under the flag of either country, as to make the intercourse between Cuba and Porto Rico and ourselves scarcely less intimate than the commercial movement between our domestic ports, and to insure a removal of the burdens on shipping in the Spanish Indies, of which in the past our ship-owners and ship-masters have so often had cause to complain.

The negotiation of this convention has for a time postponed the prosecution of certain claims of our citizens which were declared to be without the jurisdiction of the late Spanish-American Claims Commission, and which are therefore remitted to diplomatic channels for adjustment. The speedy settlement of these claims will now be urged by this Government.

Negotiations for a treaty of commercial reciprocity with the Dominican Republic have been successfully concluded, and the result will shortly be laid before the Senate.

Certain questions between the United States and the Ottoman Empire still remain unsolved. Complaints on behalf of our citizens are not satisfactorily adjusted. The Porte has sought to withhold from our commerce the right of favored treatment to which we are entitled by existing conventional stipulations, and the revision of the tariffs is unaccomplished.

The final disposition of pending questions with Venezuela has not as yet been reached, but I have good reason to expect an early settlement, which will provide the means of re-examining the Caracas awards in conformity with the expressed desire of Congress, and which will recognize the justice of certain claims preferred against Venezuela.

The Central and South American Commission appointed by authority of the act of July 7, 1884, will soon proceed to Mexico. It has been furnished with instructions which will be laid before you. They contain a statement of the general policy of the Government for enlarging its commercial intercourse with American States. The commissioners have been actively preparing for their responsible task by holding conferences in the principal cities with merchants and others interested in Central and South American trade.

The International Meridian Conference, lately convened in Washington upon the invitation of the Government of the United States, was composed of representatives from twenty-five nations. The conference concluded its labors on the 1st of November, having with substantial unanimity agreed upon the meridian of Greenwich as the starting point whence longitude is to be computed through one hundred and eighty degrees eastward and westward, and upon the adoption, for all purposes for which it may be found convenient, of a universal day which shall begin at midnight on the initial meridian and whose hours shall be counted from zero up to twenty-four.

The formal report of the transactions of this conference will be hereafter transmitted to the Congress.

This Government is in frequent receipt of invitations from foreign states to participate in international exhibitions, often of great interest and importance. Occupying as we do an advanced position in the world's production, and aiming to secure a profitable share for our industries in the general competitive markets, it is a matter of serious concern that the want of means for participation in these exhibitions should so often exclude our producers from advantages enjoyed by

those of other countries. During the past year the attention of Congress was drawn to the formal invitations in this regard tendered by the Governments of England, Holland, Belgium, Germany, and Austria. The Executive has in some instances appointed honorary commissioners. This is, however, a most unsatisfactory expedient, for without some provision to meet the necessary working expenses of a commission it can effect little or nothing in behalf of exhibitors. An international inventions exhibition is to be held in London next May. This will cover a field of special importance, in which our country holds a foremost rank, but the Executive is at present powerless to organize a proper representation of our vast national interests in this direction.

I have in several previous messages referred to this subject. It seems to me that a statute, giving to the Executive general discretionary authority to accept such invitations, and to appoint honorary commissioners, without salary, and placing at the disposal of the Secretary of State a small fund for defraying their reasonable expenses, would be of great public utility.

This Government has received official notice that the Revised International Regulations for preventing collisions at sea have been adopted by all the leading maritime powers except the United States, and came into force on the 1st of September last. For the due protection of our shipping interests, the provisions of our statutes should at once be brought into conformity with these Regulations.

The question of securing to authors, composers, and artists copyright privileges in this country in return for reciprocal rights abroad is one that may justly challenge your attention. It is true that conventions will be necessary for fully accomplishing this result, but until Congress shall by statute fix the extent to which foreign holders of copyright shall be here privileged, it has been deemed inadvisable to negotiate such conventions. For this reason the United States were not represented at the recent conference at Berne.

I recommend that the scope of the neutrality laws of the United States be so enlarged as to cover all patent acts of hostility committed in our territory and aimed against the peace of a friendly nation. Existing statutes prohibit the fitting out of armed expeditions and restrict the shipment of explosives, though the enactments in the latter respect were not framed with regard to international obligations, but simply for the protection of passenger travel. All these statutes were intended to meet special emergencies that had already arisen. Other emergencies have arisen since, and modern ingenuity supplies means for the organization of hostilities without open resort to armed vessels or to filibustering parties.

I see no reason why overt preparations in this country for the commission of criminal acts, such as are here under consideration, should not be alike punishable, whether such acts are intended to be committed in our own country or in a foreign country with which we are at peace.

The prompt and thorough treatment of this question is one which intimately concerns the national honor.

Our existing naturalization laws also need revision. Those sections relating to persons residing within the limits of the United States in 1795 and 1798 have now only a historical interest. Section 2172, recognizing the citizenship of the children of naturalized parents, is ambiguous in its terms and partly obsolete. There are special provisions of law favoring the naturalization of those who serve in the Army or in merchant vessels, while no similar privileges are granted those who serve in the Navy or the Marine Corps.

“An uniform rule of naturalization,” such as the Constitution contemplates, should, among other things, clearly define the status of persons born within the United States subject to a foreign power (section 1992) and of minor children of fathers who have declared their intention to become citizens but have failed to perfect their naturalization. It might be wise to provide for a central bureau of registry, wherein should be filed authenticated transcripts of every record of naturalization in the several Federal and State courts, and to make provision also for the vacation or cancellation of such record in cases where fraud had been practiced upon the court by the applicant himself or where he had renounced or forfeited his acquired citizenship. A just and uniform law in this respect would strengthen the hands of the Government in protecting its citizens abroad, and would pave the way for the conclusion of treaties of naturalization with foreign countries.

The legislation of the last session effected in the diplomatic and consular service certain changes and reductions which have been productive of embarrassment. The population and commercial activity of our country are steadily on the increase, and are giving rise to new, varying, and often delicate relationships with other countries. Our foreign establishment now embraces nearly double the area of operations that it occupied twenty years ago. The confinement of such a service within the limits of expenditure then established is not, it seems to me, in accordance with true economy. A community of sixty millions of people should be adequately represented in its intercourse with foreign nations.

A project for the reorganization of the consular service and for recasting the scheme of extraterritorial jurisdiction is now before you. If the limits of a short session will not allow of its full consideration, I trust that you will not fail to make suitable provision for the present needs of the service.

It has been customary to define in the appropriation acts the rank of each diplomatic office to which a salary is attached. I suggest that this course be abandoned and that it be left to the President, with the advice and consent of the Senate, to fix from time to time the diplomatic grade of the representatives of this Government abroad as may seem advisable, provision being definitely made, however, as now for the amount of salary attached to the respective stations.

The condition of our finances and the operations of the various branches of the public service which are connected with the Treasury Department are very fully discussed in the report of the Secretary.

It appears that the ordinary revenues for the fiscal year ended June 30, 1884, were—

From customs	\$195,067,489 76
From internal revenue.....	121,586,072 51
From all other sources.....	31,866,307 65
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Total ordinary revenues.....	348,519,869 92
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The public expenditures during the same period were—

For civil expenses	\$22,312,907 71
For foreign intercourse.....	1,260,766 37
For Indians	6,475,999 29
For pensions	55,429,228 06
For the military establishment, including river and harbor improvements and arsenals	39,429,603 36
For the naval establishment, including vessels, ma- chinery, and improvements at navy-yards.....	17,292,601 44
For miscellaneous expenditures, including public buildings, light-houses, and collecting the revenue..	43,939,710 00
For expenditures on account of the District of Co- lumbia	3,407,049 62
For interest on the public debt.....	54,578,378 48
For the sinking fund.....	46,790,229 50
	<hr/>
Total ordinary expenditures	290,916,473 83
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Leaving a surplus of 57,603,396 09

As compared with the preceding fiscal year there was a net decrease of over \$21,000,000 in the amount of expenditures. The aggregate receipts were less than those of the year previous by about \$54,000,000. The falling off in revenue from customs made up nearly \$20,000,000 of this deficiency, and about \$23,000,000 of the remainder was due to the diminished receipts from internal taxation.

The Secretary estimates the total receipts for the fiscal year which will end June 30, 1885, at \$330,000,000, and the total expenditures at \$290,620,201.16, in which sum are included the interest on the debt and the amount payable to the sinking fund. This would leave a surplus for the entire year of about \$39,000,000.

The value of exports from the United States to foreign countries during the year ending June 30, 1884, was as follows:

Domestic merchandise	\$724, 964, 852
Foreign merchandise.....	15, 548, 757
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Total merchandise	740, 513, 609
Specie	67, 133, 383
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Total exports of merchandise and specie.....	807, 646, 992
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The cotton and cotton manufactures included in this statement were valued at \$208,900,415; the breadstuffs at \$162,544,715; the provisions at \$114,416,547, and the mineral oils at \$47,103,248.

During the same period the imports were as follows:

Merchandise	\$667, 697, 693
Gold and silver.....	37, 426, 262
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Total	705, 123, 955
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More than 63 per cent. of the entire value of imported merchandise consisted of the following articles:

Sugar and molasses	\$103, 884, 274
Wool and woolen manufactures.....	53, 542, 292
Silk and its manufactures.....	49, 949, 128
Coffee	49, 686, 705
Iron and steel and manufactures thereof.....	41, 464, 599
Chemicals	38, 464, 965
Flax, hemp, jute, and like substances, and manufactures thereof	33, 463, 398
Cotton and manufactures of cotton	30, 454, 476
Hides and skins other than fur-skins.....	22, 350, 906
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I concur with the Secretary of the Treasury in recommending the immediate suspension of the coinage of silver dollars and of the issuance of silver certificates. This is a matter to which, in former communications, I have more than once invoked the attention of the National Legislature.

It appears that annually for the past six years there have been coined, in compliance with the requirements of the act of February 28, 1878, more than twenty-seven million silver dollars. The number now out-

standing is reported by the Secretary to be nearly one hundred and eighty-five million, whereof but little more than forty million, or less than 22 per cent., are in actual circulation. The mere existence of this fact seems to me to furnish of itself a cogent argument for the repeal of the statute which has made such fact possible.

But there are other and graver considerations that tend in the same direction.

The Secretary avows his conviction that unless this coinage and the issuance of silver certificates be suspended, silver is likely at no distant day to become our sole metallic standard. The commercial disturbance and the impairment of national credit that would be thus occasioned can scarcely be overestimated.

I hope that the Secretary's suggestions respecting the withdrawal from circulation of the one-dollar and two-dollar notes will receive your approval. It is likely that a considerable portion of the silver now encumbering the vaults of the Treasury might thus find its way into the currency.

While trade-dollars have ceased, for the present at least, to be an element of active disturbance in our currency system, some provision should be made for their surrender to the Government. In view of the circumstances under which they were coined and of the fact that they have never had a legal-tender quality, there should be offered for them only a slight advance over their bullion value.

The Secretary, in the course of his report, considers the propriety of beautifying the designs of our subsidiary silver coins and of so increasing their weight that they may bear their due ratio of value to the standard dollar. His conclusions in this regard are cordially approved.

In my annual message of 1882, I recommended the abolition of all excise taxes except those relating to distilled spirits. This recommendation is now renewed. In case these taxes shall be abolished, the revenues that will still remain to the Government will, in my opinion, not only suffice to meet its reasonable expenditures, but will afford a surplus large enough to permit such tariff reduction as may seem to be advisable, when the results of recent revenue laws and commercial treaties shall have shown in what quarters those reductions can be most judiciously effected.

One of the gravest of the problems which appeal to the wisdom of Congress for solution is the ascertainment of the most effective means for increasing our foreign trade and thus relieving the depression under which our industries are now languishing. The Secretary of the Treasury advises that the duty of investigating this subject be intrusted in the first instance to a competent commission. While fully recognizing the considerations that may be urged against this course, I am nevertheless of the opinion that, upon the whole, no other would be likely to effect speedier or better results.

That portion of the Secretary's report which concerns the condition

of our shipping interests cannot fail to command your attention. He emphatically recommends that as an incentive to the investment of American capital in American steamships, the Government shall by liberal payments for mail transportation, or otherwise, lend its active assistance to individual enterprise, and declares his belief that unless that course be pursued our foreign carrying trade must remain, as it is to-day, almost exclusively in the hands of foreigners.

One phase of this subject is now especially prominent, in view of the repeal by the act of June 26, 1884, of all statutory provisions arbitrarily compelling American vessels to carry the mails to and from the United States. As it is necessary to make provision to compensate the owners of such vessels for performing that service after April, 1885, it is hoped that the whole subject will receive early consideration that will lead to the enactment of such measures for the revival of our merchant marine as the wisdom of Congress may devise.

The three per cent. bonds of the Government to the amount of more than \$100,000,000 have, since my last annual message, been redeemed by the Treasury. The bonds of that issue still outstanding amount to little over \$200,000,000, about one-fourth of which will be retired through the operations of the sinking fund during the coming year. As these bonds still constitute the chief basis for the circulation of the national banks, the question how to avert the contraction of the currency, caused by their retirement, is one of constantly increasing importance.

It seems to be generally conceded that the law governing this matter exacts from the banks excessive security, and that, upon their present bond deposits, a larger circulation than is now allowed may be granted with safety. I hope that the bill which passed the Senate at the last session, permitting the issue of notes equal to the face value of the deposited bonds, will commend itself to the approval of the House of Representatives.

In the expenses of the War Department the Secretary reports a decrease of more than \$9,000,000. Of this reduction \$5,600,000 was effected in the expenditures for rivers and harbors, and \$2,700,000 in expenditures for the Quartermaster's Department.

Outside of that Department the annual expenses of all the Army bureaus proper (except possibly the Ordnance Bureau) are substantially fixed charges, which can not be materially diminished without a change in the numerical strength of the Army. The expenditures in the Quartermaster's Department can readily be subjected to administrative discretion, and it is reported by the Secretary of War that as a result of exercising such discretion, in reducing the number of draught and pack animals in the Army, the annual cost of supplying and caring for such animals is now \$1,108,085.90 less than it was in 1881.

The reports of military commanders show that the last year has been notable for its entire freedom from Indian outbreaks.

In defiance of the President's proclamation of July 1, 1884, certain intruders sought to make settlements in the Indian Territory. They were promptly removed by a detachment of troops.

During the past session of Congress a bill to provide a suitable fire-proof building for the Army Medical Museum and the library of the Surgeon-General's Office received the approval of the Senate. A similar bill, reported favorably to the House of Representatives by one of its committees, is still pending before that body. It is hoped that during the coming session the measure may become a law, and that thereafter immediate steps may be taken to secure a place of safe deposit for these valuable collections, now in a state of insecurity.

The funds with which the works for the improvement of rivers and harbors were prosecuted during the past year were derived from the appropriations of the act of August 2, 1882, together with such few balances as were on hand from previous appropriations. The balance in the Treasury subject to requisition July 1, 1883, was \$10,021,649.55. The amount appropriated during the fiscal year 1884 was \$1,319,634.62, and the amount drawn from the Treasury during the fiscal year was \$8,228,703.54, leaving a balance of \$3,112,580.63 in the Treasury subject to requisition July 1, 1884.

The Secretary of War submits the report of the Chief of Engineers as to the practicability of protecting our important cities on the seaboard by fortifications and other defenses able to repel modern methods of attack. The time has now come when such defenses can be prepared with confidence that they will not prove abortive; and, when the possible result of delay in making such preparation is seriously considered, delay seems inexcusable. For the most important cities—those whose destruction or capture would be a national humiliation—adequate defenses, inclusive of guns, may be made by the gradual expenditure of \$60,000,000, a sum much less than a victorious enemy could levy as a contribution. An appropriation of about one-tenth of that amount is asked to begin the work, and I concur with the Secretary of War in urging that it be granted.

The War Department is proceeding with the conversion of 10-inch smooth-bore guns into 8-inch rifles, by lining the former with tubes of forged steel or of coiled wrought-iron. Fifty guns will be thus converted within the year. This, however, does not obviate the necessity of providing means for the construction of guns of the highest power, both for the purposes of coast defense and for the armament of war vessels.

The report of the Gun Foundry Board, appointed April 2, 1883, in pursuance of the act of March 3, 1883, was transmitted to Congress in a special message of February 18, 1884. In my message of March 26, 1884, I called attention to the recommendation of the Board that the

Government should encourage the production at private steel works of the required material for heavy cannon, and that two government factories, one for the Army and one for the Navy, should be established for the fabrication of guns from such material. No action having been taken, the Board was subsequently reconvened to determine more fully the plans and estimates necessary for carrying out its recommendation. It has received information which indicates that there are responsible steel manufacturers in this country who, although not provided at present with the necessary plant, are willing to construct the same and to make bids for contracts with the Government for the supply of the requisite material for the heaviest guns adapted to modern warfare, if a guaranteed order of sufficient magnitude, accompanied by a positive appropriation extending over a series of years, shall be made by Congress. All doubts as to the feasibility of the plan being thus removed, I renew my recommendation that such action be taken by Congress as will enable the Government to construct its own ordnance upon its own territory, and so to provide the armaments demanded by considerations of national safety and honor.

The report of the Secretary of the Navy exhibits the progress which has been made on the new steel cruisers authorized by the acts of August 5, 1882, and March 3, 1883. Of the four vessels under contract, one, the *Chicago*, of 4,500 tons, is more than half finished; the *Atlanta*, of 3,000 tons, has been successfully launched, and her machinery is now fitting; the *Boston*, also of 3,000 tons, is ready for launching, and the *Dolphin*, a dispatch steamer of 1,500 tons, is ready for delivery.

Certain adverse criticisms upon the designs of these cruisers are discussed by the Secretary, who insists that the correctness of the conclusions reached by the Advisory Board and by the Department has been demonstrated by recent developments in ship-building abroad.

The machinery of the double-turreted monitors *Puritan*, *Terror*, and *Amphitrite*, contracted for under the act of March 3, 1883, is in process of construction. No work has been done during the past year on their armor for lack of the necessary appropriations. A fourth monitor, the *Monadnock*, still remains unfinished at the navy-yard in California. It is recommended that early steps be taken to complete these vessels and to provide also an armament for the monitor *Miantonomoh*.

The recommendations of the Naval Advisory Board, approved by the Department, comprise the construction of one steel cruiser of 4,500 tons, one cruiser of 3,000 tons, two heavily-armed gunboats, one light cruising gunboat, one dispatch-vessel armed with Hotchkiss cannon, one armored ram, and three torpedo boats. The general designs, all of which are calculated to meet the existing wants of the service, are now well advanced, and the construction of the vessels can be undertaken as soon as you shall grant the necessary authority.

The act of Congress approved August 7, 1882, authorized the removal

to the United States of the bodies of Lieutenant-Commander George W. De Long and his companions of the Jeannette Expedition. This removal has been successfully accomplished by Lieutenants Harber and Schuetze. The remains were taken from their grave in the Lena Delta in March, 1883, and were retained at Yakutsk until the following winter, the season being too far advanced to admit of their immediate transportation. They arrived at New York February 20, 1884, where they were received with suitable honors.

In pursuance of the joint resolution of Congress approved February 13, 1884, a naval expedition was fitted out for the relief of Lieut. A. W. Greely, United States Army, and of the party who had been engaged under his command in scientific observations at Lady Franklin Bay. The fleet consisted of the steam sealer Thetis, purchased in England, the Bear, purchased at St. John's, Newfoundland, and the Alert, which was generously provided by the British Government. Preparations for the expedition were promptly made by the Secretary of the Navy, with the active co-operation of the Secretary of War. Commander George W. Coffin was placed in command of the Alert, and Lieut. William H. Emory in command of the Bear. The Thetis was intrusted to Commander Winfield S. Schley, to whom also was assigned the superintendence of the entire expedition.

Immediately upon its arrival at Upernavik, the fleet began the dangerous navigation of Melville Bay, and in spite of every obstacle reached Littleton Island on June 22, a fortnight earlier than any vessel had before attained that point. On the same day it crossed over to Cape Sabine, where Lieutenant Greely and the other survivors of his party were discovered. After taking on board the living and the bodies of the dead, the relief ships sailed for St. John's, where they arrived on July 17. They were appropriately received at Portsmouth, N. H., on August 1, and at New York on August 8. One of the bodies was landed at the former place. The others were put on shore at Governor's Island, and, with the exception of one which was interred in the National Cemetery, were forwarded thence to the destinations indicated by friends. The organization and conduct of this Relief Expedition reflects great credit upon all who contributed to its success.

In this, the last of the stated messages that I shall have the honor to transmit to the Congress of the United States, I cannot too strongly urge upon its attention the duty of restoring our navy as rapidly as possible to the high state of efficiency which formerly characterized it. As the long peace that has lulled us into a sense of fancied security may at any time be disturbed, it is plain that the policy of strengthening this arm of the service is dictated by considerations of wise economy, of just regard for our future tranquillity, and of true appreciation of the dignity and honor of the Republic.

The report of the Postmaster-General acquaints you with the present condition and needs of the postal service.

It discloses the gratifying fact that the loss of revenue from the reduction in the rate of letter-postage recommended in my message of December 4, 1882, and effected by the act of March 3, 1883, has been much less than was generally anticipated. My recommendation of this reduction was based upon the belief that the actual falling off in receipts from letter-postages for the year immediately succeeding the change of rate would be \$3,000,000. It has proved to be only \$2,275,000.

This is a trustworthy indication that the revenue will soon be restored to its former volume by the natural increase of sealed correspondence.

I confidently repeat, therefore, the recommendation of my last annual message that the single-rate postage upon drop letters be reduced to one cent wherever the payment of two cents is now required by law. The double rate is only exacted at offices where the carrier system is in operation, and it appears that at those offices the increase in the tax upon local letters defrays the cost not only of its own collection and delivery, but of the collection and delivery of all other mail matter. This is an inequality that ought no longer to exist.

I approve the recommendation of the Postmaster-General that the unit of weight in the rating of first-class matter should be one ounce instead of one-half ounce as it now is. In view of the statistics furnished by the Department it may well be doubted whether the change would result in any loss of revenue; that it would greatly promote the convenience of the public is beyond dispute.

The free-delivery system has been lately applied to five cities, and the total number of offices in which it is now in operation is one hundred and fifty-nine. Experience shows that its adoption, under proper conditions, is equally an accommodation to the public and an advantage to the postal service. It is more than self-sustaining, and for the reasons urged by the Postmaster-General may properly be extended.

In the opinion of that officer it is important to provide means whereby exceptional dispatch in dealing with letters in free-delivery offices may be secured by payment of extraordinary postage. This scheme might be made effective by employment of a special stamp whose cost should be commensurate with the expense of the extra service.

In some of the large cities private express companies have undertaken to outstrip the Government mail-carriers by affording, for the prompt transmission of letters, better facilities than have hitherto been at the command of the Post-Office.

It has always been the policy of the Government to discourage such enterprises, and in no better mode can that policy be maintained than in supplying the public with the most efficient mail service that, with due regard to its own best interests, can be furnished for its accommodation.

The Attorney-General renews the recommendation contained in his report of last year touching the fees of witnesses and jurors.

He favors radical changes in the fee bill, the adoption of a system by

which attorneys and marshals of the United States shall be compensated solely by salaries, and the erection by the Government of a penitentiary for the confinement of offenders against its laws.

Of the varied governmental concerns in charge of the Interior Department, the report of its Secretary presents an interesting summary. Among the topics deserving particular attention I refer you to his observations respecting our Indian affairs, the pre-emption and timber-culture acts, the failure of railroad companies to take title to lands granted by the Government, and the operations of the Pension Office, the Patent Office, the Census Bureau, and the Bureau of Education.

Allusion has been made already to the circumstance that, both as between the different Indian tribes and as between the Indians and the whites, the past year has been one of unbroken peace.

In this circumstance the President is glad to find justification for the policy of the Government in its dealing with the Indian question, and confirmation of the views which were fully expressed in his first communication to the Forty-seventh Congress.

The Secretary urges anew the enactment of a statute for the punishment of crimes committed on the Indian reservations, and recommends the passage of the bill now pending in the House of Representatives for the purchase of a tract of 18,000 square miles from the Sioux reservation. Both these measures are worthy of approval.

I concur with him also in advising the repeal of the pre-emption law, the enactment of statutes resolving the present legal complications touching lapsed grants to railroad companies, and the funding of the debt of the several Pacific railroads under such guaranty as shall effectually secure its ultimate payment.

The report of the Utah Commission will be read with interest.

It discloses the results of recent legislation looking to the prevention and punishment of polygamy in that Territory. I still believe that if that abominable practice can be suppressed by law it can only be by the most radical legislation consistent with the restraints of the Constitution.

I again recommend, therefore, that Congress assume absolute political control of the Territory of Utah, and provide for the appointment of commissioners, with such governmental powers as in its judgment may justly and wisely be put into their hands.

In the course of this communication reference has more than once been made to the policy of this Government as regards the extension of our foreign trade. It seems proper to declare the general principles that should, in my opinion, underlie our national efforts in this direction.

The main conditions of the problem may be thus stated:

We are a people apt in mechanical pursuits and fertile in invention; we cover a vast extent of territory rich in agricultural products and in

nearly all the raw materials necessary for successful manufacture; we have a system of productive establishments more than sufficient to supply our own demands; the wages of labor are nowhere else so great; the scale of living of our artisan classes is such as tends to secure their personal comfort and the development of those higher moral and intellectual qualities that go to the making of good citizens. Our system of tax and tariff legislation is yielding a revenue which is in excess of the present needs of the Government.

These are the elements from which it is sought to devise a scheme by which, without unfavorably changing the condition of the workingman, our merchant marine shall be raised from its enfeebled condition and new markets provided for the sale, beyond our borders, of the manifold fruits of our industrial enterprises.

The problem is complex, and can be solved by no single measure of innovation or reform.

The countries of the American continent and the adjacent islands are for the United States the natural marts of supply and demand. It is from them that we should obtain what we do not produce or do not produce in sufficiency, and it is to them that the surplus productions of our fields, our mills, and our workshops should flow, under conditions that will equalize or favor them in comparison with foreign competition.

Four paths of policy seem to point to this end.

First, a series of reciprocal commercial treaties with the countries of America which shall foster between us and them an unhampered movement of trade. The conditions of these treaties should be the free admission of such merchandise as this country does not produce, in return for the admission free or under a favored scheme of duties, of our own products—the benefits of such exchange to apply only to goods carried under the flag of the parties to the contract; the removal, on both sides, from the vessels so privileged of all tonnage dues and national imposts so that those vessels may ply unhindered between our ports and those of the other contracting parties, though without infringing on the reserved home coasting trade; the removal or reduction of burdens on the exported products of those countries coming within the benefits of the treaties; and the avoidance of the technical restrictions and penalties by which our intercourse with those countries is at present hampered.

Secondly, the establishment of the consular service of the United States on a salaried footing, thus permitting the relinquishment of consular fees not only as respects vessels under the national flag, but also as respects vessels of the treaty nations carrying goods entitled to the benefits of the treaties.

Thirdly, the enactment of measures to favor the construction and maintenance of a steam carrying marine under the flag of the United States.

Fourthly, the establishment of an uniform currency basis for the countries of America, so that the coined products of our mines may

circulate on equal terms throughout the whole system of commonwealths. This would require a monetary union of America, whereby the output of the bullion producing countries and the circulation of those which yield neither gold nor silver could be adjusted in conformity with the population, wealth, and commercial needs of each. As many of the countries furnish no bullion to the common stock, the surplus production of our mines and mints might thus be utilized and a step taken toward the general remonetization of silver.

To the accomplishment of these ends, so far as they can be attained by separate treaties, the negotiations already concluded and now in progress have been directed, and the favor which this enlarged policy has thus far received warrants the belief that its operations will ere long embrace all, or nearly all, the countries of this hemisphere.

It is by no means desirable, however, that the policy under consideration should be applied to these countries alone. The healthful enlargement of our trade with Europe, Asia, and Africa should be sought by reducing tariff burdens on such of their wares as neither we nor the other American States are fitted to produce, and thus enabling ourselves to obtain in return a better market for our supplies of food, of raw materials, and of the manufactures in which we excel.

It seems to me that many of the embarrassing elements in the great national conflict between protection and free trade may thus be turned to good account—that the revenue may be reduced so as no longer to overtax the people, that protective duties may be retained without becoming burdensome, that our shipping interests may be judiciously encouraged, the currency fixed on firm bases, and above all such an unity of interests established among the states of the American system as will be of great and ever increasing advantage to them all.

All treaties in the line of this policy which have been negotiated or are in process of negotiation contain a provision deemed to be requisite under the clause of the Constitution limiting to the House of Representatives the authority to originate bills for raising revenue.

On the 29th of February last I transmitted to the Congress the first annual report of the Civil Service Commission, together with communications from the heads of the several Executive Departments of the Government, respecting the practical workings of the law under which the Commission had been acting. The good results therein foreshadowed have been more than realized.

The system has fully answered the expectations of its friends in securing competent and faithful public servants and in protecting the appointing officers of the Government from the pressure of personal importunity and from the labor of examining the claims and pretensions of rival candidates for public employment.

The law has had the unqualified support of the President and of the heads of the several Departments, and the members of the Commission

have performed their duties with zeal and fidelity. Their report will shortly be submitted, and will be accompanied by such recommendations for enlarging the scope of the existing statute as shall commend themselves to the Executive and the Commissioners charged with its administration.

In view of the general and persistent demand throughout the commercial community for a national bankrupt law, I hope that the differences of sentiment which have hitherto prevented its enactment may not outlast the present session.

The pestilence which for the past two years has been raging in the countries of the East recently made its appearance in European ports with which we are in constant communication.

The then Secretary of the Treasury, in pursuance of a proclamation of the President, issued certain regulations restricting, and for a time prohibiting, the importation of rags and the admission of baggage of immigrants and of travelers arriving from infected quarters. Lest this course may have been without strict warrant of law, I approve the recommendation of the present Secretary that the Congress take action in the premises, and I also recommend the immediate adoption of such measures as will be likely to ward off the dreaded epidemic, and to mitigate its severity in case it shall unhappily extend to our shores.

The annual report of the Commissioners of the District of Columbia reviews the operations of the several departments of its municipal government. I ask your careful consideration of its suggestions in respect to legislation—especially commending such as relate to a revision of the civil and criminal code, the performance of labor by persons sentenced to imprisonment in the jail, the construction and occupation of wharves along the river front, and the erection of a suitable building for District offices.

I recommend that, in recognition of the eminent services of Ulysses S. Grant, late General of the Armies of the United States and twice President of this nation, the Congress confer upon him a suitable pension.

Certain of the measures that seem to me necessary and expedient I have now, in obedience to the Constitution, recommended for your adoption.

As respects others of no less importance, I shall content myself with renewing the recommendations already made to the Congress, without restating the grounds upon which such recommendations were based.

The preservation of forests on the public domain, the granting of Government aid for popular education, the amendment of the Federal Constitution so as to make effective the disapproval by the President of particular items in appropriation bills, the enactment of statutes in regard to the filling of vacancies in the Presidential office, and the determining of vexed questions respecting Presidential inability are measures which may justly receive your serious consideration.

As the time draws nigh when I am to retire from the public service, I cannot refrain from expressing to the members of the National Legislature with whom I have been brought into personal and official intercourse my sincere appreciation of their unfailing courtesy and of their harmonious co-operation with the Executive in so many measures calculated to promote the best interests of the Nation.

And to my fellow-citizens generally I acknowledge a deep sense of obligation for the support which they have accorded me in my administration of the Executive Department of this Government.

CHESTER A. ARTHUR.

WASHINGTON, *December 1, 1884.*

REPORT

OF

THE SECRETARY OF THE TREASURY.

TREASURY DEPARTMENT,
Washington, D. C., December 1, 1884.

SIR: I have the honor to submit the following report:

The ordinary revenues of the Government from all sources for the fiscal year ended June 30, 1884, were:

From customs.....	\$195,067,489 76
From internal revenue.....	121,586,072 51
From sales of public lands.....	9,810,705 01
From tax on national banks.....	3,108,730 13
From profits on coinage, bullion deposits, and assays..	4,250,609 30
From customs fees, fines, penalties, &c.....	1,074,665 46
From fees—consular, letters-patent, and lands.....	3,248,937 57
From repayment of interest by Pacific Railway Companies.....	1,371,363 21
From sinking-fund for Pacific Railway Companies.....	2,045,775 05
From deposits by individuals for surveying public lands.....	664,111 78
From proceeds of sales of Government property.....	546,634 74
From Indian trust-funds.....	76,115 63
From donations towards liquidating the public debt..	63,314 97
From immigrant fund.....	224,286 50
From Soldiers' Home, permanent fund.....	367,092 04
From sale of condemned naval vessels.....	200,000 00
From revenues of the District of Columbia.....	1,970,726 13
From miscellaneous sources.....	2,843,240 13
Total ordinary receipts.....	348,519,869 92

The ordinary expenditures for the same period were:

For civil expenses.....	\$22,312,907 71
For foreign intercourse	1,260,766 37
For Indians.....	6,475,999 29
For pensions	55,429,228 06
For the military establishment, including river and harbor improvements and arsenals.....	39,429,603 36
For the naval establishment, including vessels, machinery, and improvements at navy-yards.....	17,292,601 44

For miscellaneous expenditures, including public buildings, light-houses, and collecting the revenue..	\$43,939,710 00
For expenditures on account of the District of Columbia	3,407,049 62
For interest on the public debt.....	54,578,378 48
For the sinking-fund	46,790,229 50
Total ordinary expenditures.....	290,916,473 83
Leaving a surplus of.....	57,603,396 09

Which was applied to the redemption—

Of Oregon war debt.....	\$650 00
Of loan of 1858.....	5,000 00
Of loan of February, 1861.....	55,000 00
Of loan of July and August, 1861.....	202,650 00
Of loan of March, 1863.....	28,700 00
Of five-twenties of 1862.....	4,150 00
Of five-twenties of 1864.....	1,000 00
Of five-twenties of 1865.....	1,200 00
Of ten-forties of 1864..	72,300 00
Of consols of 1865.....	65,400 00
Of consols of 1867.....	178,850 00
Of consols of 1868.....	21,700 00
Of funded loan of 1881.....	171,450 00
Of loan of July 12, 1882.	52,260,650 00
Of certificates of deposit.....	990,000 00
Of refunding certificates	65,900 00
Of old demand, compound-interest, and other notes..	12,255 00
And to the increase of cash in the Treasury.....	3,466,541 09
Total	57,603,396 09

The requirements of the sinking-fund for the past fiscal year, including a balance of \$623,316.71 from the preceding year, have been fully met. It is estimated that the requirement for the present fiscal year will be \$47,620,201.16, of which there has been applied during the first four months of the year the sum of \$27,067,050.

Compared with the previous fiscal year, the receipts for 1884 have in the following items decreased \$54,044,793.16: In customs revenue, \$19,639,007.17; in internal revenue, \$23,134,296.47; in tax on national banks, \$6,002,278.72; in deposits by individuals for surveying public lands, \$557,499.98; in donations towards liquidating the public debt, \$901,111.90; in proceeds of sale of post-office property in New York

city, \$648,694.82; in profits on coinage, bullion deposits, and assays, \$209,595.87; in Indian trust-funds, \$83,567.28; in consular fees, \$177,057.97; in custom-house fees, \$129,066.66; in customs fines, penalties, and forfeitures, \$56,093.84; in customs emolument fees, \$176,410.38; in repayment of interest by Pacific Railway Companies, \$185,503.69; in tax on seal-skins and rent of seal islands, \$65,420.25; in proceeds of Japanese indemnity fund, \$1,839,533.99, and in miscellaneous items, \$239,654.17. There was an increase of \$4,277,081.13, as follows: In sales of public lands, \$1,854,840.59; in proceeds of sales of Government property, \$261,579.72; in sinking-fund for Pacific Railway Companies, \$723,671.94; in sales of Indian lands, \$280,046.40; in reimbursement by national-bank redemption agency, \$82,946.83; in registers' and receivers' fees, \$84,783.60; in fees on letters-patent, \$18,850.30; in Soldiers' Home permanent fund, \$301,468.50; in reimbursement for surveying Indian lands, \$310,406.95; in sale of condemned naval vessels, \$200,000; in sale of military barracks, \$60,643.76; in payment for railway material, \$64,000; in rent of Hot Springs reservation, \$17,501.13; in proceeds of sales of small-arms, \$12,988.17, and in marine-hospital tax, \$3,353.24; making a net decrease in the receipts from all sources of \$49,767,712.03.

The expenditures show a decrease as compared with the previous year of \$25,533,468.97, as follows: In the War Department, \$9,481,779.57; in pensions, \$10,583,345.58; in Indians, \$886,591.05; and in interest on the public debt, \$4,581,752.77. There was an increase of \$4,251,575.76, as follows: In the Navy Department, \$2,009,164.27; and in civil and miscellaneous, \$2,242,411.49; making a net decrease in the expenditures of \$21,281,893.21.

FISCAL YEAR 1885.

For the present fiscal year the revenue, actual and estimated, is as follows:

Source.	For the quarter ended Sept. 30, 1884.	For the remaining three-quarters of the year.	Total.
	Actual.	Estimated.	
From customs	\$54,102,858 65	\$130,897,141 35	\$185,000,000 00
From internal revenue	28,639,010 76	86,360,980 24	115,000,000 00
From sales of public lands	1,446,183 88	5,053,816 12	6,500,000 00
From tax on national banks	1,474,182 14	1,525,807 86	3,000,000 00
From repayment of interest and sinking-fund, Pacific Railway Companies	1,518,407 05	1,481,592 95	3,000,000 00
From customs fees, fines, penalties, &c.	276,844 68	723,655 82	1,000,000 00
From fees—consular, letters-patent, and lands ..	910,243 29	2,069,756 71	3,000,000 00
From proceeds of sales of Government property ..	55,132 96	344,867 04	400,000 00
From profits on coinage, assays, &c.	1,927,644 70	2,172,355 30	4,100,000 00
From deposits for surveying public lands	168,645 27	331,354 73	500,000 00
From revenues of the District of Columbia	255,800 61	1,544,189 39	1,800,000 00
From miscellaneous sources	944,681 51	5,755,318 49	6,700,000 00
Total receipts	91,719,145 50	238,280,854 50	330,000,000 00

The expenditures for the same period, actual and estimated, are :

Object.	For the quarter ended Sept. 30, 1884.	For the remain- ing three-quar- ters of the year.	Total.
	Actual.	Estimated.	
For civil and miscellaneous expenses, including public buildings, light-houses, and collecting the revenue.....	\$21,251,296 74	\$48,998,708 26	\$70,250,000 00
For Indians.....	1,995,942 22	4,504,057 78	6,500,000 00
For pensions.....	14,951,525 96	38,048,474 04	53,000,000 00
For military establishment, including fortifica- tions, river and harbor improvements, and arsenals.....	13,049,465 86	28,950,534 14	42,000,000 00
For naval establishment, including vessels and machinery, and improvements at navy-yards..	4,289,798 17	12,210,201 83	16,500,000 00
For expenditures on account of the District of Columbia.....	1,425,731 89	2,074,268 11	3,500,000 00
For interest on the public debt.....	18,809,410 97	37,440,589 03	51,250,000 00
For the sinking-fund.....	27,067,050 00	20,553,151 16	47,620,201 16
Total ordinary expenditures.....	97,840,221 81	192,779,979 35	290,620,201 16

Total receipts, actual and estimated.....	\$330,000,000 00
Total expenditures.....	290,620,201 16
Estimated surplus.....	<u>39,379,798 84</u>

FISCAL YEAR 1886.

The revenues of the fiscal year ending June 30, 1886, are thus esti-
mated upon the basis of existing laws :

From customs.....	\$185,000,000 00
From internal revenue.....	115,000,000 00
From sales of public lands.....	6,500,000 00
From tax on national banks.....	3,000,000 00
From repayment of interest and sinking-fund, Pacific Railway Companies.....	3,000,000 00
From customs fees, fines, penalties, &c.....	1,000,000 00
From fees—consular, letters-patent, and lands.....	3,000,000 00
From proceeds of sales of Government property.....	400,000 00
From profits on coinage, assays, &c.....	4,100,000 00
From deposits for surveying public lands.....	500,000 00
From revenues of the District of Columbia.....	1,800,000 00
From miscellaneous sources.....	6,700,000 00
Total estimated ordinary receipts.....	<u>330,000,000 00</u>

The estimates of expenditures for the same period, received from
the several Executive Departments, are as follows :

Legislative.....	\$3,321,486 55
Executive	19,335,823 50
Judicial	408,800 00

Foreign intercourse	\$1, 623, 176 75	
Military establishment	26, 429, 577 45	
Naval establishment	30, 654, 010 50	
Indian affairs	7, 328, 049 64	
Pensions	60, 000, 000 00	
Public works—		
Legislative	\$7, 400 00	
Treasury Department	4, 490, 916 54	
War Department	18, 572, 460 48	
Navy Department	2, 218, 221 00	
Interior Department	524, 667 41	
Department of Justice	148, 100 00	
	<hr/>	25, 961, 765 43
Postal service	4, 826, 349 26	
Miscellaneous	21, 919, 294 07	
District of Columbia	3, 669, 544 24	
Permanent annual appropriations—		
Interest on the public debt	\$48, 750, 000 00	
Sinking-fund	48, 571, 861 86	
Refunding—customs, internal reve-		
nue, lands, &c	9, 623, 100 00	
Collecting revenue from customs ...	5, 500, 000 00	
Miscellaneous	5, 989, 055 00	
	<hr/>	118, 434, 016 86
Total estimated expenditures	323, 911, 394 25	
Or an estimated surplus of	6, 088, 605 75	

It will be observed that the estimates submitted by the several Executive Departments for the fiscal year 1886 exceed the estimates received from those Departments for the fiscal year 1885 by more than \$40,000,000.

It is well understood that appropriations made upon estimates of the several Departments usually fall far short of the amount of such estimates; and, without intending to criticise the action of other Departments, I think it may be fairly assumed that the appropriations for the fiscal year 1886 will not exceed the actual expenditures for 1885, as shown above. This would leave a surplus for 1886, the same as for 1885, of more than thirty-nine millions.

The estimate of receipts from customs for 1886 is, in the foregoing table, placed at \$185,000,000, or the same as for the preceding year, according to long usage in estimating in the Secretary's Annual Report.

That estimate is about ten millions less than the actual receipts from customs in the fiscal year 1884.

It should be considered that the value of imports of dutiable merchandise for the fiscal years 1884 and 1885 has been much reduced by the unusual depression of business, which we may fairly hope will not long continue. This reduction in 1884, as compared with 1883, was, as appears in the tables under the head of "Customs," nearly \$38,000,000, the average duty on which would amount to more than \$16,000,000. It seems safe to assume, therefore, that the surplus revenues for 1886 will be more than \$50,000,000.

REDEMPTION OF UNITED STATES BONDS.

On November 1, 1883, the outstanding bonds of the 3 per cent. loan of the act of July 12, 1882, amounted to \$305,529,000. Calls were issued prior to November 1, 1883, for \$30,000,000 of the above amount, all of which matured in the month of December, 1883. During the year ended October 31, 1884, calls have been issued for \$80,000,000 of such bonds, \$70,000,000 of which matured previous to October 31, and \$10,000,000 on the first day of November, 1884.

The following table shows in detail the redemptions and cancellations of United States bonds during the twelve months ended October 31, 1884:

Seven-thirty notes of July 17, 1861.....	\$100
Seven-thirty notes, 1864-1865	1, 800
Loan of June 14, 1858	5, 000
Loan of February 8, 1861.....	3, 000
Oregon war debt.....	1, 300
Five-twenties of February 25, 1862	3, 800
Five-twenties of 1865, (May and November).....	22, 200
Five-twenties of June 30, 1864	1, 050
Ten-forties of 1864.....	77, 250
Consols of 1865.....	22, 150
Consols of 1867	130, 650
Consols of 1868.....	15, 650
Loan of July and August, 1861, (6 per cent.).....	35, 100
Loan of March 3, 1863, (6 per cent.).....	5, 550
Funded loan of 1881, (5 per cent.).....	142, 200
Loan of July and August, 1861, (continued at 3½ per cent.)	133, 100
Loan of March 3, 1863, (continued at 3½ per cent.).....	55, 700
Funded loan of 1881, (continued at 3½ per cent.)*.....	5, 347, 700
Loan of July 12, 1882, (3 per cent.).....	91, 771, 000
Total.....	97, 774, 300

* Part of which had matured previous to November 1, 1883.

The reduction in the annual interest charge by reason of the changes during the year ended October 31, 1884, is as follows:

On bonds redeemed or interest ceased.....	\$3, 204, 260
Deduct for interest on 4 per cent. bonds issued.....	392
Net reduction.....	3, 203, 868

The following table shows the changes in the interest-bearing debt during the year:

Title of loan.	Rate of interest.	Outstanding November 1, 1883.	Issued during the year.	Redeemed during the year.	Outstanding October 31, 1884.
Funded loan of 1881.....	{ 5 per cent., continued at 3½ per cent. }	\$4, 970, 500	.....	\$4, 970, 500	.....
Loan of July 12, 1882					
Funded loan of 1881.....	3 per cent.....	305, 520, 000	.....	{ *9, 288, 750 } 91, 771, 000	\$204, 519, 250
Funded loan of 1891.....	4¼ per cent....	250, 000, 000	.....	.....	250, 000, 000
Funded loan of 1907.....	4 per cent.....	737, 620, 700	†870, 850	.....	737, 691, 550
Refunding certificates.....	4 per cent.....	325, 850	.....	‡61, 050	264, 800
Navy-pension fund.....	3 per cent.....	14, 000, 000	.....	.....	14, 000, 000
Total.....		1, 312, 446, 050	70, 850	106, 041, 300	1, 206, 475, 600

* Ceased to bear interest during the year, but not yet presented for payment.
† Of this issue \$9,800 was on account of accrued interest on \$61,050 refunding certificates converted.
‡ Redeemed by conversion into 4 per cent. bonds.

CONVERSION OF REFUNDING CERTIFICATES.

Since November 1, 1883, refunding certificates issued in 1879, under the act of February 26, 1879, have been presented for conversion into 4 per cent. bonds as follows:

Principal.....	\$61, 050
Accrued interest due	12, 210
Total.....	73, 260

For which settlement was made as follows:

Four per cent. bonds issued.....	\$70, 850
Interest paid in cash.....	2, 410
Total.....	73, 260

The certificates still outstanding amount to \$264,800.

As I am to occupy for a very brief period only the office recently made vacant by the lamented death of one distinguished gentleman, and the acceptance by another scarcely less distinguished of a place more congenial to his taste, it might be becoming in me to confine my report to the foregoing exhibits and a presentation of the reports of

the heads of the various bureaus, which abound in valuable information in regard to the condition of the Department, and to other matters of interest to Congress and the public.

There are, however, some subjects of so great importance that I do not feel at liberty to withhold an expression of my views upon them, short as has been the time for their consideration. These subjects are:

- 1st. Our Foreign Trade and Taxation.
- 2d. Our Merchant Marine.
- 3d. The Public Debt and the Condition of the Treasury.
- 4th. Our National Banking System.

FOREIGN TRADE AND TAXATION.

In the early days of the West, when population was more than keeping pace with the acreage brought under cultivation, there was a ready demand for what the farmers raised, and the home market was the only market they needed. This satisfactory condition of agricultural industry in that section of the country was of short duration. Good prices stimulated production, and in a few years the supply became greater than the demand, in consequence of which the value of agricultural products began to decline, and the decline went on until what the farmers could obtain for their crops was insufficient to cover the necessary outlays in producing them. So great was this decline, in many instances, that where the farms were at a long distance from navigable waters, wheat remained uncut in the fields and corn was used for fuel. The owners of such farms were therefore compelled to leave a part of their fields uncultivated, so that lands of great fertility became well-nigh valueless. To remedy this very untoward condition of their agricultural industry, many States in 1834 and 1835 commenced large works of internal improvement, but before their completion the financial crisis of 1837 occurred, which caused a collapse of all great enterprises throughout the entire country, and left most of the States that had engaged in them overloaded with debt and without advantage from their large expenditures. The Wabash and Erie Canal, work on which had been commenced two years before, and was designed to unite the navigable waters of the Wabash with Lake Erie, was the only one of the Western enterprises of that day which was completed, and its completion was owing to a land grant made for its construction by the United States Government. Although the country benefited by the opening of this canal was of considerable extent, it was small in comparison with the vast region, far distant from navigable waters, which was rapidly being occupied by enterprising and thrifty farmers. What this vast region needed was a market and facilities for reaching

it, with both of which it was soon supplied. It is now penetrated in all directions by railroads, and the cost of transportation has been so cheapened that farming lands far west of the Mississippi have become nearly as valuable as lands in the seaboard States. To the rise in the value of lands resulting from the construction of railroads the wonderful increase of the national wealth is very largely attributable.

The condition of the manufacturing interest of the United States is similar in some respects to the condition of the agricultural interest of the West in the early days to which I have referred. What the Western farmers then needed was a market for their crops. What manufacturers now need is a market for their surplus manufactures.

The real foundation of our great manufacturing industry was laid in New England under the first tariff of a protective character, which diverted a part of its capital from shipping into cotton-factories. Those first constructed having been fairly remunerative, more were constructed, and other branches of manufacture were undertaken, until New England was converted from maritime and commercial pursuits into manufacturing. It will be recollected that New England was opposed to the first protective tariff—that one of Mr. Webster's great speeches was a free-trade speech.

It was not many years after the first cotton-mills were erected in New England that the great iron interests of the country began to be developed, and Pennsylvania soon became the great iron-manufacturing State of the Union. Nor was it long before various kinds of manufactures came into existence in most of the Northern and Western States. The demands of the Government during the late civil war for nearly all kinds of manufactured goods and the high tariff greatly stimulated production. After the war, stimulus was found in railroad building and in extravagant expenditures induced by superabundant currency, and the time has now come when the manufacturing industry of the United States is in dire distress from plethora of manufactured goods. Some manufacturing companies have been forced into bankruptcy; others have closed their mills to escape it; few mills are running on full time, and as a consequence a very large number of operatives are either deprived of employment or are working for wages hardly sufficient to enable them to live comfortably or even decently. Nor are manufacturers and their employes the only sufferers by the present depression of our manufacturing industry. So large and widespread has this industry become, so interwoven is it with other industries, so essential is it to the welfare of the whole country, that it cannot be seriously depressed without injuriously affecting business throughout the Union.

The all-important question, therefore, that presses itself upon the public attention is, how shall the country be relieved from the plethora of manufactured goods, and how shall plethora hereafter be prevented? It is obvious that our power to produce is much in excess of the present or any probable future demand for home consumption. The existing iron, cotton, and woollen mills, if employed at their full capacity, could meet in six months—perhaps in a shorter time—the home demand for a year. It is certain, therefore, that unless markets now practically closed against us are opened; unless we can share in the trade which is monopolized by European nations, the depression now so severely felt will continue, and may become more disastrous.

The question how shall our foreign trade be increased is the question which now comes to the front and demands prompt and careful consideration. Manufacturers are primarily interested, but the whole country has a stake in its solution. In its investigation the tariff will necessarily be involved, inasmuch as the relations between it and our foreign trade are so close that they cannot be considered separately, but it need not be involved except so far as it stands in the way of international trade. If the duties upon raw materials are an obstruction, those duties should be removed. If the duties upon other articles are an obstruction, they should be modified. Whatever may be required to increase our foreign trade, whether it be a repeal or modification of existing duties, should be demanded by the manufacturers themselves. How, then, shall the information required for a full understanding of what stands in the way of an increased exportation of our manufactured goods be obtained? It may not be proper for me to offer advice on this point, but I cannot forbear to say that I can see no better means than by the appointment of a Commission, composed of men not wedded to the doctrines of free trade or protection—fair-minded men, who would prosecute the inquiry thoroughly, comprehensively, and impartially. If such a Commission should be created, it should be done without unnecessary delay.

It is true that previous Commissions have not accomplished all that was expected of them. The cause of this partial failure it is not necessary to inquire into, but this failure should not prevent the appointment of such a Commission as has been suggested, unless something better can be devised. It is very clear that what is needed cannot be accomplished through the agency of the Committee on Ways and Means. So vast in its comprehensive reach is the question to be investigated, and so complicated is it by the changing policy of other nations, that this committee would lack the time required for its

thorough investigation. Besides, the Committee on Ways and Means is usually appointed to sustain measures to which the party in control in the House is pledged, rather than to give to subjects referred to it that impartial consideration which is needed for correct conclusions. Nor is the fact to be overlooked that even constituted as this committee has been, and able as have been its members, there has rarely, if ever, been a committee which so reflected the sentiments or commanded the respect of the House as to be able to carry through without important changes the bills which it had prepared.

It is, therefore, obvious that some other agency than the Committee on Ways and Means must be resorted to in order that the House may have the information absolutely needed for correct conclusions in regard to the nature of the obstructions in the way of an extension of our foreign trade, and the best means of removing them. The labors of a Commission, if properly performed, would be very great. Ample time, therefore, should be allowed for their performance.

The business of the whole world has been revolutionized by steam-power and the substitution of machinery for hand-work. If not the inventor of the steam-engine, Great Britain took the lead in utilizing it in manufacturing, and she thus became the great workshop of the world. For many years she had a monopoly of manufacturing. The raw materials from nearly all nations were taken in her own ships to her ports and returned in manufactured goods. It has been the profit of this combination of manufactures and commerce which has made her the richest and most powerful of nations. Now, however, all western nations are endeavoring to use their raw materials at home and to encourage and sustain their manufactures by protective duties, the effect of which has been general overproduction.

It is this great revolution caused by steam-power and machinery and their general use that will make the labors of the Commission so arduous. All the leading nations of the world are now engaged in manufacturing, and all but Great Britain are fencing themselves in by protective duties. Among them the United States has been conspicuous. Has not the time come when a new departure is demanded? Cobden, one of the ablest and most farseeing of British statesmen, predicted that the United States would in time not only become a great manufacturing country, but would become a competitor with Great Britain in the South American markets. In the course of some remarks upon the condition of British trade he said:

"Members of the House of Commons and others are constantly crying out that there is very great danger threatening this country from Russia, and they neglect to observe that the great danger to the supremacy of the country is not in Russia, but in the competition of the United States of America."

The Cobden Club is the channel through which the free-trade sentiments of Great Britain find expression, and yet, at a recent meeting of the club, the following language by one of the prominent members of Parliament was cheered and applauded :

“Many persons seem to think that the effect of the reduction of the protective duties in America would be to enable us to flood the United States with our productions. For a short time probably it would give a stimulus to our trade, but in the long run the effect of it would be to cheapen American productions, and to increase the competition of America with us in other parts of the world. We should have to meet that competition. We should find the Americans very serious competitors, and we should have in this country to throw aside many of the bonds which now fetter our industry.”

The present condition of our foreign trade is not as fully understood by the public as it ought to be, or there would be greater uneasiness in regard to what may be the result. Look, for instance, at our trade relations with Brazil. We sold to Brazil last year various articles to the amount of \$8,645,261. We bought of her various kinds of her own productions to the amount of \$50,265,889, leaving \$41,620,628 as the balance against us. Now, how is this large balance liquidated? Not by gold, but by the sale of our farm products, for which there is a large demand in Europe. It is our cotton, our wheat, our petroleum, our beef and pork, which can be produced more cheaply in the United States than anywhere else, which create the sterling exchange that enables us to carry on this one-sided trade with Brazil. Now, if by the failure of our crops, or very favorable seasons on the other side of the Atlantic, or, what is more probable, by retaliation, our exports of these articles should materially decline, what then would be the condition of our Brazilian trade? Instead of depending upon the exports to Europe for the means to cover the balance in favor of Brazil, ought not an effort be made to equalize that trade by our manufactured goods? Ought we not to endeavor to verify the prediction of Cobden by becoming a competitor with Great Britain in the Brazilian markets? Ought not this to be attempted in the interest of our own manufacturers?

Reference is made to our trade with Brazil because it is much larger than that with other South American States, but our trade with all of them is of the same one-sided and unsatisfactory character. Ought it so to continue? The South American States are our neighbors. With the exception of Brazil, their institutions are moulded upon ours. They would be glad to establish close trade relations with us, which could not fail to be of mutual advantage; and yet so little intercourse have we with them that supplies for our ships-of-war in South American ports must be paid for in sterling exchange. Drafts on Japan could

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be as easily negotiated in their ports as drafts on the Treasurer of the United States.

When the real condition of our foreign trade and the character of the competition in which we must sooner or later engage are fully understood, it will be found that our inability to make that trade as free as our best interests require, lies in the necessity which exists for heavy import duties, which, although they may be levied for revenue only, must be in a large degree protective.

It is upon such taxes, therefore, that our Government must mainly rely for its large current expenditures and the reduction of the national debt. Large revenues will be derived from the taxes upon whiskey and tobacco, if the tax on the latter article should be retained, but our chief revenue must be derived from import duties. To show how these duties may be imposed and distributed as to neither imperil our manufactures nor obstruct our foreign trade, while the Treasury is kept in an easy condition, will be the task of the Commission. That the task will be a very difficult one is certain; that it may be successfully performed ought to be certain also.

In competition with Great Britain in the South American markets, Great Britain will have the advantage by being already in possession of the trade, but this advantage will doubtless be counterbalanced by the abundance and comparative cheapness of our agricultural productions. That we are to be a competitor with Great Britain in foreign markets, especially in the markets of the South American States, is as certain as anything in the future can be. The steps which may be needful to make this competition successful it will be for Congress to determine after the Commission has performed its duty. To me it seems certain that it cannot properly be done before. A nation with fifty-six millions of people, doubling every twenty-five years, a people distinguished for enterprise and inventive power, in possession of a country of vast extent and rich beyond comparison in developed and undeveloped resources, ought not much longer to be prevented from having a full share in the honor and the gain of international trade.

In the commencement of its work the Commission should, I think, regard the following points as being settled:

First. That the public revenues are not to be in excess of what may be required for the support of the Government, and the gradual reduction of the public debt.

Second. That our manufactures, which under the fostering care of the Government have attained such gigantic proportions and whose prosperity is essential to the welfare of all other interests, are not to

be put in jeopardy by radical and sweeping changes in the tariff; and that all reductions of import duties should be made with a view to their ultimate advantage by opening to them markets from which they are now in a large degree excluded.

Something has been done, and more might be done, to increase our foreign trade by reciprocal treaties, but the advantage to be derived from such treaties would be restricted and partial; and there are very serious objections to treaties which affect the public revenues, on the ground that they are an encroachment upon the rights of the House of Representatives, in which, under the Constitution, all revenue bills must originate.

As to the persons who should constitute the Commission there will be various opinions. It might be composed of persons who have no connection with the Government, or of Senators and Members of the House, but I strongly incline to the opinion that it should be composed of Members of the House only, because, in the investigation of the subject of our foreign trade, questions affecting the public revenues will necessarily be involved; and that members should be selected from those who have been re-elected to the 49th Congress, in order that its work may be explained and defended by those who have performed it. It would be advisable, also, that the Secretary of the Treasury should *ex-officio* be a member of the Commission, in order that the views of the Treasury Department and those of the Commission may be in accord.

In the preceding remarks the tariff has been only indirectly referred to. From this it must not be inferred that I am not in favor of a reform of the tariff, but rather that the subjects of the tariff and foreign trade are so intimately connected that they must, in my opinion, be considered together. Have we not reached the stage when a policy should be adopted which will embrace and harmonize the great interests of the country?

If such a Commission as has been suggested had been appointed, and its work could be performed at an early date, I should not be disposed to say anything bearing directly upon the tariff; but as relief from the present burden of taxation is urgently and justly demanded, I deem it my duty to suggest that something in this direction should be done without delay. Owing to the shortness of the time allowed to me for the consideration of the subject, I am not prepared to name the articles upon which duties should be removed or reduced. I should regret this if Congress were not already in possession of the facts which should govern its action. This much, however, it may be proper for me to recommend:

First. That the existing duties upon raw materials which are to be used in manufacture should be removed. This can be done in the interest of our foreign trade.

Second. That the duties upon the articles used or consumed by those who are the least able to bear the burden of taxation should be reduced. This also can be effected without prejudice to our export trade.

In regard to our internal-revenue taxes, I have to say that, as these taxes, with the exception of the tax upon whiskey, ought not to be and will not be needed for revenue if appropriations are kept within reasonable bounds and rigid economy is established in all branches of the public service, I see no good reason for their continuance. The tax upon bank-note circulation I shall refer to in my remarks upon national banks. Taxes upon agricultural productions, although indirectly levied, are inconsistent with our general policy, and tobacco is the only one of these productions which has been taxed. An article which is so generally used, and which adds so much to the comfort of the large numbers of our population who earn their living by manual labor, cannot properly be considered a luxury, and as the collection of the tax is expensive and troublesome to the Government, and is especially obnoxious and irritative to small manufacturers, the tax upon tobacco should, in my judgment, be removed.

The tax upon whiskey could not be repealed without a disregard of public sentiment, nor without creating a necessity for higher duties upon imported goods, but while this is true the tax upon the alcohol used in manufacturing might be removed with decided benefit to home industry and foreign trade.

Under the provisions of section 3433, Revised Statutes, as amended, spirits used in the manufacture for export of certain enumerated articles are freed from the tax of 90 cents per gallon. This law has greatly increased the exportation of the articles therein named.

These articles, however, constitute but a very small portion of those in the manufacture of which alcohol is used, or in which it would be used were it not for the tax thereon.

In Great Britain spirits have been used in manufactures free of tax since the year 1856, the spirits having been previously mixed with wood naphtha or "methylated."

It is understood that spirits thus methylated are unfit to be used as a beverage, while they remain uninjured for the general purposes of manufacturing. It is suggested, therefore, that provision be made for the use of domestic methylated spirits, free of tax, as a measure tending to encourage manufactures, both for home use and for exportation.

The following table shows the value of merchandise imported into the United States from Brazil and exported from the United States to Brazil during each year from 1864 to 1884:

Merchandise.

Year ended June 30—	Exports.		Total exports.	Imports.	Total imports and exports.
	Domestic.	Foreign.			
1864.....	\$5,252, 887	\$102, 368	\$5,354, 755	\$14, 888, 899	\$19, 743, 654
1865.....	6,485, 872	94, 289	6,580, 161	9, 784, 812	16, 364, 478
1866.....	5,603, 617	88, 042	5,691, 659	16, 816, 803	22, 508, 462
1867.....	4,964, 308	185, 079	5,049, 387	19, 100, 300	24, 199, 687
1868.....	5,565, 365	109, 839	5,695, 404	23, 595, 740	29, 291, 144
1869.....	5,779, 959	67, 245	5,806, 604	24, 837, 408	30, 704, 007
1870.....	5,665, 096	109, 235	5,774, 333	25, 161, 219	30, 935, 543
1871.....	5,942, 416	71, 317	6,013, 733	30, 551, 215	36, 564, 948
1872.....	5,862, 191	60, 592	5,912, 783	30, 122, 384	36, 035, 167
1873.....	7,090, 987	106, 785	7,197, 722	38, 540, 376	45, 738, 098
1874.....	7,560, 502	141, 654	7,702, 156	43, 888, 647	51, 590, 803
1875.....	7,631, 865	116, 464	7,742, 359	42, 027, 863	49, 770, 222
1876.....	7,282, 218	94, 162	7,346, 380	45, 446, 381	52, 792, 761
1877.....	7,498, 118	87, 666	7,581, 619	48, 498, 041	51, 099, 854
1878.....	8,611, 646	76, 056	8,686, 704	42, 968, 979	51, 655, 677
1879.....	8,106, 928	87, 442	8,194, 370	59, 375, 441	47, 500, 811
1880.....	8,496, 096	106, 650	8,605, 346	51, 970, 090	60, 565, 436
1881.....	9,138, 637	113, 778	9,252, 415	52, 782, 536	62, 084, 951
1882.....	9,035, 452	117, 110	9,152, 562	49, 801, 878	57, 964, 440
1883.....	9,159, 330	92, 764	9,252, 094	44, 488, 459	53, 740, 553
1884.....	8,645, 261	50, 368	8,695, 659	50, 265, 889	58, 961, 548

The following are the principal articles of merchandise exported from the United States to Brazil and imported into the United States from Brazil during the year ended June 30, 1884:

Articles exported from the United States to Brazil.

Order		Values.
1	Wheat flour.....	\$3, 845, 224
2	Iron and steel, manufactures of.....	932, 073
3	Cotton, manufactures of.....	650, 568
4	Oils, mineral, refined or manufactured.....	567, 800
5	Provisions, comprising meat and dairy products.....	497, 018
6	Wood, manufactures of.....	394, 109
7	Carriages and railroad and horse cars.....	296, 963
8	Vessels, steam and sailing.....	219, 400
9	Chemicals, drugs, dyes, and medicines.....	133, 923
10	Soap.....	133, 864
	All other articles.....	971, 699
	Total	8, 645, 261

Articles imported into the United States from Brazil.

Order.		Quantities.	Values.
1	Coffee.....	pounds.. 247, 373, 001	\$30, 021, 573
2	Sugar, brown, and syrups, melada, &c.....	pounds.. 363, 385, 001	10, 966, 870
3	India-rubber and gutta-percha, crude.....	pounds.. 11, 960, 643	7, 246, 828
4	Hides and skins, other than fur-skins.....	pounds.. 1, 084, 029	1, 084, 029
5	Cocoa, or cacao, crude.....	pounds.. 1, 837, 637	224, 977
6	Hair.....	172, 769	172, 769
7	Wood, unmanufactured.....	167, 335	167, 335
8	Fruits and nuts.....	160, 039	160, 039
	All other articles.....	251, 479	251, 479
	Total	60, 265, 889	

Products of agriculture and products of manufacture.

Of the total value of our exports of merchandise to Brazil, amounting during the last fiscal year to \$8,645,261, the value of manufactured articles was \$4,143,008; of agricultural products, \$4,434,702; and of all other articles, \$67,551.

Almost the entire imports of merchandise from Brazil into the United States consisted of products of agriculture, including among such products, india-rubber and gutta-percha, crude; hair; fruits, and nuts.

Of the total imports, coffee constituted 59.7 per cent., and sugar, sirups, and melada, 21.9 per cent.

The commerce of the United States with all the South American States during the last sixteen years has been as follows :

Countries.	Exports.		Imports.		Total imports and exports.	
	1868.	1884.	1868.	1884.	1868.	1884.
United States of Colombia.....	\$3,711,796	\$6,981,821	\$2,338,297	\$3,891,843	\$6,250,093	\$10,273,664
Venezuela	961,262	2,427,961	2,368,977	6,674,041	3,330,239	9,102,002
British Guiana.....	1,945,568	1,884,416	2,364,632	4,095,536	4,310,250	5,979,952
Dutch Guiana.....	465,523	319,475	422,591	623,118	888,104	942,593
French Guiana.....	36,986	103,007	15,477	2,321	52,463	105,928
Brazil	5,895,404	8,695,659	23,595,740	50,265,899	29,291,144	58,961,548
Uruguay	821,006	1,308,418	1,179,520	2,128,961	2,000,526	3,487,379
Argentine Republic.....	2,732,800	5,074,593	4,806,299	4,110,038	7,538,899	9,184,631
Chile.....	1,580,999	2,270,562	951,767	537,936	2,532,766	3,108,498
Peru	1,666,355	1,070,528	1,765,397	2,077,645	3,431,752	3,148,173
All other South American.....	8,264	629,804	2,366	1,345,612	10,630	1,976,506
Total.....	19,625,763	31,226,934	40,011,103	75,763,960	59,636,860	106,980,394

The total value of the imports and exports of merchandise during the year ended June 30, 1884, amounted to \$1,408,211,302, as against \$1,547,020,316 during the preceding fiscal year, showing a decrease of \$138,809,014.

The value of the exports of domestic merchandise amounted to \$724,964,852, as against \$804,223,632 during the preceding fiscal year, showing a decrease of \$79,258,780; and the value of the imports of merchandise amounted to \$667,697,693, as against \$723,180,914 during the preceding fiscal year, showing a decrease of \$55,483,221.

The total value of the exports of merchandise of both domestic and foreign production exceeded the total value of the imports of merchandise \$72,815,916, as against an excess of \$100,658,488 in the value of such exports during the preceding fiscal year.

The exports of specie from the United States during the last fiscal year amounted to \$67,133,383, as against \$31,820,333 during the preceding fiscal year; and the imports of specie amounted to \$37,426,262, as against \$28,489,391 during the preceding fiscal year. The excess

of exports of specie over the imports thereof amounted to \$29,707,121, as against an excess of \$3,330,942 in such exports during the preceding fiscal year.

EXPORTS.

The value of exports from the United States to foreign countries, during the year ended June 30, 1884, was as follows:

Domestic merchandise.....	\$724,964,852
Foreign merchandise.....	15,548,757
Total merchandise.....	740,513,609
Specie.....	67,133,383
Total exports of merchandise and specie.....	807,646,992

During the last fiscal year the value of our exports of cotton and manufactures of cotton was \$208,900,415; of breadstuffs, \$162,544,715; of provisions, \$114,416,547; and of mineral oils, \$47,103,248. These commodities and classes of commodities constituted nearly 74 per cent. of our entire exports of merchandise.

The value of our exports of products of agriculture, of manufacture, of mining, of the forest, of the fisheries, and of gold and silver coin and bullion during the years ended June 30, 1883 and 1884, were as follows:

	Year ended June 30—	
	1883.	1884.
Products of agriculture.....	\$619,269,449	\$536,315,318
Products of manufacture.....	111,890,001	111,330,242
Products of mining, including petroleum.....	51,444,857	56,822,529
Products of the forest.....	9,976,143	9,465,330
Products of the fisheries.....	6,270,375	5,614,111
Other products.....	5,366,807	5,417,822
Gold and silver coin and bullion.....	21,623,181	50,225,635
Total.....	825,846,813	775,190,487

Our exports of products of agriculture consisted chiefly of cotton, animals, breadstuffs, and provisions. Our exports of iron, of wood, of cotton, and of leather were the chief articles of manufacture exported.

Our exports of products of mining consisted chiefly of mineral oils, coal, and copper ore.

Our exports of products of the forest consisted chiefly of wood and timber and naval stores.

Our exports of the products of the fisheries consisted mainly of fish, fish-oils, and whalebone.

IMPORTS.

The imports into the United States during the last fiscal year were as follows:

Merchandise.....	\$667, 697, 693
Gold and silver	37, 426, 262
Total	<u>705, 123, 955</u>

The principal articles imported, with their value, were as follows: Sugar and molasses, \$103,884,274; wool, and manufactures of wool, \$53,542,292; silk, and manufactures of silk, \$49,949,128; coffee, \$49,686,705; iron and steel, and manufactures thereof, \$41,464,599; chemicals, \$38,464,965; flax, hemp, jute, and like vegetable substances, and manufactures thereof, \$33,463,398; cotton, and manufactures of cotton, \$30,454,476; and hides and skins, other than fur-skins, \$22,350,906.

The total value of manufactured and of unmanufactured articles of merchandise imported into the United States during the last fiscal year was as follows:

Unmanufactured.....	\$235, 775, 932
Manufactured	431, 921, 761
Total	<u>667, 697, 693</u>

The value of imports during the three months ended September 30, 1883, was \$166,735,075, and for the three months ended September 30, 1884, \$157,083,995, showing a falling off of \$9,651,080.

The value of the exports of merchandise from the United States during the three months ended September 30, 1883, was \$168,782,085, as against \$161,649,105, during the three months ended September 30, 1884, showing a falling off of \$7,132,980.

OUR SHIPPING INTEREST.

In direct connection with the condition of our foreign trade is the condition of our merchant service. The causes of the decline of our shipping are so well understood that any remarks on this point are quite unnecessary. The humiliating fact stares us in the face that while the United States not many years ago led all nations in ship-building, and was second only to Great Britain in ocean tonnage, it has almost ceased to be recognized as a maritime power; that nearly all of our agricultural productions and manufactured goods which find a market in Europe or South America and the articles received in exchange

for them are carried in foreign ships; that the many thousands of Americans who annually visit Europe on business or for pleasure go and come in European steamers; that large foreign steamship lines are in fact supported by the people of the United States. All this is not only humiliating to our national pride, but it stands in the way of the improvement of our foreign trade. In his report to Congress under date of the 3d of December, 1866, the Secretary used the following language:

“It is a well-established general fact that the people who build ships navigate them, and that a nation which ceases to build ships ceases, of consequence, to be a commercial and maritime nation. Unless, therefore, the causes which prevent the building of ships in the United States shall cease, the foreign carrying-trade even of its own productions must be yielded to other nations. To this humiliation and loss the people of the United States ought not to be subjected. If other branches of industry are to prosper, if agriculture is to be profitable, and manufactures are to be extended, the commerce of the country must be restored, sustained, and increased. The United States will not be a first-class power among the nations, nor will her other industrial interests continue long to prosper as they ought, if her commerce shall be permitted to languish.”

If this language was true then, it is certainly true now. Eighteen years have passed since it was uttered. There has been in the mean time an enormous increase of our population and national wealth, but no improvement whatever in our foreign shipping interest. Not only does this important interest remain well-nigh lifeless, but the difficulties in the way of restoring its vitality have been greatly increased by the immense capital since then invested by foreign steamship companies, which control and practically monopolize the carrying-trade between this and other countries, and these difficulties will become every year more and more formidable until remedial measures are adopted by Congress. When the nature of the obstructions in the way of a revival of our shipping is fully investigated, the cost of building ships in the United States will not, I think, be found to be a serious one. I am convinced that if the duties upon the foreign materials used in the construction and outfit of iron ships were removed, they could be built and fitted for sea as cheaply in the United States as in Scotland. Manual labor, it is true, is much cheaper in Scotland, but it is less efficient. Besides, most of the work in iron-ship building is done by machinery, in the invention and use of which Americans excel. Scores of things are done in Glasgow ship-yards by hand which in the United States would be done by machinery.

Fifty years ago the United States excelled all nations in ship-building. Not only were we able to supply the home demand, but large numbers of ships were built for foreigners in the ship-yards, which lined the coast from Delaware Bay to Eastport. Our superiority in ship-building then was owing to the facts that our forests abounded in

timber of the best qualities, and that our carpenters were skilful in the use of it. Since then iron has been substituted for wood in the construction of steamships. But are not our iron and coal fields as productive and accessible as those of any other country? Are our machinists less skilled in the use of machinery than were our ship-carpenters in the use of the axe and the saw? As far as materials for building ships and skill in the use of those materials are regarded, Great Britain has no advantage over us; on the contrary, is not the advantage on our side? Apprehended difficulties are magnified until they are encountered. When steel rails were in demand beyond the home supply at \$75 per ton, and many were imported, subject to a duty of \$28 per ton, who would have dared to express the opinion that in four years they could be made in this country at less than \$30 per ton, with a profit to the makers?

The obstacles in the way of a restoration of our foreign shipping will not, I conceive, be found in the cost of ships which are to be built in the United States, but in the absence of demand for them. If our navigation laws were so modified that American registers could be granted to foreign-built ships for foreign trade, there would be little, if any, improvement in our shipping interest. Such modification some years ago might have done something to prevent decline; it would now be insufficient to restore. The great and profitable carrying-trade between the United States and Europe has been permitted to pass into the hands of the ship-owners of other nations. So complete is their control of it, so large is the capital invested in it, and so sharp and persistent would be the contest if we should attempt, without Government aid, to share in it, that our capitalists would not compete for it. There is, in my opinion, no prospect whatever that the United States will ever share to a considerable extent in the foreign carrying-trade without Government aid. It is for Congress to determine whether this aid shall be granted, or whether our foreign shipping interest shall remain in its present death-like condition. The let-alone policy has been tried for many years, during which our ships have been swept from the ocean, and we pay every year many millions of dollars to foreign ship-owners for freights and fares. Ought this condition of things to be continued?

Entertaining these views, I do not hesitate to express the opinion—

First. That without Government aid to United States steamship lines the foreign carrying-trade will remain in the hands of foreigners.

Second. That as we ought to have an interest in the business which we create, and as the restoration of our shipping interest is important, if not essential, to the extension of our foreign trade, subsidies in the

form of liberal payments for the transportation of mails or in some other form should be offered as an inducement to investments of capital in steamships.

The amount of necessary aid would be insignificant in comparison with what has been granted to manufacturers by protective duties, and nothing would be paid until the services were rendered. If the subject were investigated, it would be found that all the European steamship lines that led the way in the great traffic by steam-power have received government aid. It is admitted that all protective duties and subsidies are inconsistent with the teachings of political economy, but, true as these teachings may be in the abstract, they are disregarded by all nations when they stand in the way of national welfare. No rules are equally applicable to all nations, nor to the same nation in the different stages of its growth. Political economy is not one of the exact sciences. It is rather adaptive than exact, and all nations so regard it.

Protective duties were undoubtedly needed to induce investment in cotton, iron, and woollen mills, and what not, in the various lines of our manufacturing industry. Whether or not protection has been extended too long or too far, and to what extent it now stands in the way of other great interests, are questions that can only be settled by full investigation. Government aid is now needed to induce investment in shipping. To what extent and for what period this aid should be granted must be settled in the same way.

It is to be regretted that the United States is not in a condition to participate in the trade which is soon to be opened with the interior of Africa.

The attention of Congress is asked to the following table and statements, which exhibit the present condition of our shipping interest, and which refer to the relief already obtained by recent legislation, and to the further relief which is required aside from the question of subsidies:

Tonnage of vessels of American ownership.

The tonnage of vessels owned in the United States at the close of the fiscal year 1884, according to the records of the Bureau of Navigation, was 4,271,228.76 tons. Of this amount, 1,304,220.67 tons were in 2,127 vessels registered for the foreign trade, and 2,967,008.09 in 22,055 vessels enrolled and licensed for the coasting trade and fisheries. There was an increase of 2,126 tons in vessels in the foreign trade, and 33,616 tons in domestic trade. The following table shows

the number and tonnage of vessels built and documented during the last fiscal year :

Kinda.	Number.	Tonnage.	
		Gross.	Net.
Sailing-vessels.....	706	120,620.88	114,667.82
Steam-vessels	410	91,327.47	68,005.93
Canal-boats.....	88	3,456.43	3,264.18
Barges.....	41	10,709.22	9,834.53
Total.....	1,190	225,514.00	195,862.46

Distribution of carrying-trade.

Of the merchandise imported at seaboard, lake, and river ports during the fiscal year 1884, an amount equal in value to \$152,201,729 was imported in American vessels, and in value to \$526,379,213 in foreign vessels. The merchandise exported in American vessels had a value of \$112,520,723, and the merchandise exported in foreign vessels was valued at \$667,739,372. Of the combined imports and exports of merchandise, about 17½ per cent. was conveyed in American vessels, and about 82½ per cent. in foreign vessels.

Under the act of June 5, 1884, and the provisions of the shipping bill of June 26, 1884, a Bureau of Navigation has been established in this Department. The employés thereof, with the exception of the Commissioner, have been detailed from other offices. There have been assigned to the bureau the duties relating to navigation hitherto performed in the office of the Register of the Treasury, the Bureau of Statistics, and of the Secretary; the administration of the provisions of the act of June 26, cited above, relating to the preparation of an annual list of merchant vessels of the United States; the discharge of seamen abroad; the payment to them of extra wages; the survey of ships; the collection of tonnage-tax; and the entry of vessels into ports subject to quarantine; also, cases arising under the provisions of Titles XXXIV, XLVIII, and LVIII, Revised Statutes, and other laws concerning navigation and statements of tonnage; the documenting of vessels, the naming of them, and granting them official numbers and signal letters; their entry clearance, and movements; the issue and preservation of marine documents; and also the administration of the provisions of Title LIII, Revised Statutes, and of the shipping act, relating to the shipment of seamen and the government of the shipping offices at the various ports of the United States. The bureau is now in successful operation, and the consolidation therein

of the duties formerly incongruously distributed among several divisions of the Treasury Department prevents some confusion and duplication of work, which could not be avoided under the old system, and tends to economy and efficiency.

While the provisions of the new shipping act changing the tonnage-tax on vessels, so that a portion only of the former tax need be paid on any one entry, will materially reduce the entire amount of tax collected, they will give needed relief to sailing-vessels, which formerly were required to pay as much per ton on a single entry within a year as was paid by steam-vessels on the many entries they sometimes made within that time.

The provisions of section 27 of the shipping act of 1884 forbidding the payment of advance wages to seamen have led to much opposition from keepers of sailors' boarding-houses, and so-called runners, whose business has been injuriously affected, and the law has been enforced with some difficulty. It is understood, however, that ships have generally been able to obtain crews, and that the repeal of the law is not required by the necessities of commerce. A similar law exists in Great Britain. That, in both countries, it is sometimes evaded is unquestionable. I am not prepared to say that a modification of the statute so as to allow a half month's advance might not, in some cases, be beneficial to the seaman.

Complaint has been made that the compensation allowed to masters of vessels by section 12 of the act of June 26, 1884, for bringing home destitute American seamen, is inadequate. The section allows not exceeding \$10 for a voyage of thirty days, and \$20 for a longer voyage; but if the men are so disabled or sick as to be unable to perform duty, additional compensation may be allowed by the First Comptroller of the Treasury.

By the reduction of tonnage-dues, relief from the necessity of carrying mails, the abolition of the system of extra wages to seamen, except in certain cases, the removal of consular fees for services to vessels and to seamen, the repeal of the laws imposing marine-hospital tax, the right to withdraw supplies for, and material for the building and repairing of, vessels free of duties, the limitation of the liability of ship-owners, the right to ship seamen for stated periods, or for foreign ports, and the right to deliver cargo, in certain instances, at places not ports—all of which privileges and benefits have been conferred by recent legislation—the burdens of ship-builders, and of persons interested in shipping, have been somewhat lightened, and our navigation has been placed, as regards the expense of carrying it on,

more on a footing with that of foreign countries. Other antiquated restrictions on our maritime commerce, such as the division of the Atlantic coast into two great coasting districts, and the limitations as to the quantity of duty-paid cargo which may be carried in coasting vessels, might well be abolished. Matters of pilotage should be regulated by Congress, in such a manner that the system shall be uniform. At present each seaboard State has its separate rules, which, in some cases, are burdensome to commerce.

In this connection, the importance of a fleet of vessels engaged in commerce in time of peace as a training-school for sailors, and as a preparation for war by their easy conversion into armed cruisers or transport vessels, should not be overlooked. So much importance was formerly attached to this idea that Congress for a long series of years appropriated a bounty to vessels engaged in the fisheries, for the express purpose of encouraging ship-building and the training of seamen, and in the late civil war immense advantage to the Government was derived from the ready enlistment in the Navy of seamen trained in the merchant service.

Great Britain, with her two hundred thousand merchant seamen and her immense fleet engaged in the transportation of merchandise and passengers in all parts of the world, may serve our country in this view, both as a warning and as an example.

THE PUBLIC DEBT AND THE CONDITION OF THE TREASURY.

It is in the highest degree gratifying to the Secretary to notice the great reduction of the public debt since it reached its highest point in August, 1865, and its continued reduction since his last report, in 1868. The following table exhibits the reduction both of principal and interest:

On August 31, 1865, the indebtedness of the United States, not including bonds issued to Pacific Railroad Companies, was as follows:

Debt bearing coin interest	\$1, 108, 310, 191 80
Debt bearing currency interest.....	1, 273, 220, 103 16
Matured debt not presented for payment.....	1, 503, 020 09
Debt bearing no interest.....	461, 616, 311 51
	<hr/>
	2, 844, 649, 626 56
Cash in the Treasury	88, 218, 055 13
	<hr/>
Amount of debt less cash in the Treasury.....	2, 756, 431, 571 43
	<hr/> <hr/>

The annual interest charge was \$150,977,697.87, and the average rate paid was $6\frac{3}{8}\%$ per cent.

On November 1, 1868, the indebtedness of the United States, not including bonds issued to the Pacific Railroad Companies, was as follows:

Debt bearing coin interest	\$2, 107, 577, 950 00
Debt bearing currency interest	72, 325, 000 00
Matured debt not presented for payment	9, 753, 723 64
Debt bearing no interest	409, 151, 898 42
	<hr/>
	2, 598, 808, 572 06
Cash in the Treasury	118, 873, 019 24
	<hr/>
Amount of debt less cash in the Treasury	2, 484, 935, 552 82
	<hr/> <hr/>

The annual interest charge was \$126,408,343, and the average rate paid was $5\frac{8}{10}\%$ per cent.

On November 1, 1884, the public debt was as follows:

Debt bearing interest	\$1, 206, 475, 600 00
Debt on which interest has ceased since maturity...	12, 547, 485 26
Debt bearing no interest	623, 468, 436 36
	<hr/>
	1, 842, 491, 521 62
Cash in the Treasury	434, 008, 572 93
	<hr/>
Net debt	1, 408, 482, 948 69
	<hr/> <hr/>

The annual interest charge is now \$47,323,831.50, and the average rate paid $3\frac{2}{10}\%$ per cent.

Reduction of debt in sixteen years	\$1, 076, 452, 604 13
Reduction of annual interest charge	79, 084, 511 50
Reduction of debt in nineteen years	1, 347, 948, 622 74
Reduction of annual interest charge	103, 653, 866 37

In the management of its debt the United States has been an example to the world. Nothing has so much surprised European statesmen as the fact that immediately after the termination of one of the most expensive and, in some respects, exhaustive wars that have ever been carried on, the United States should have commenced the payment of its debt and continued its reduction through all reverses until nearly one-half

of it has been paid; that reduction in the rate of interest has kept pace with the reduction of the principal; that within a period of nineteen years the debt, which it was feared would be a heavy and never-ending burden upon the people, has been so managed as to be no longer burdensome. It is true that all this has been effected by heavy taxes, but it is also true that these taxes have neither checked enterprise nor retarded growth. While, however, the public debt is in this satisfactory condition, there are some financial dangers ahead which can only be avoided by changes in our financial legislation. The most imminent of these dangers, and the only one to which I now ask the attention of Congress, arises from the continued coinage of silver and the increasing representation of it by silver certificates. I believe that the world is not in a condition, and never will be, for the demonetization of one-third of its metallic money; that both gold and silver are absolutely necessary for a circulating medium; and that neither can be disused without materially increasing the burden of debt, nor even temporarily degraded by artificial means without injurious effects upon home and international trade. But I also believe that gold and silver can only be made to maintain their comparative value by the joint action of commercial nations. Not only is there now no joint action taken by these nations to place and keep silver on an equality with gold, according to existing standards, but it has been by the treatment it has received from European nations greatly lessened in commercial value.

For many years the silver dollar was more valuable than the gold dollar in the United States, and although there were fluctuations in their comparative value, the advantages arising from their joint use much more than counterbalanced the inconvenience and loss occasioned by these fluctuations. Various causes in combination have produced the present depression of silver, but the main causes have been the inconsiderate action of Germany in demonetizing it and throwing upon the market the large amount, which, up to that time, had constituted her metallic currency, and the restrictions upon its coinage by other European nations.

In 1872 the silver dollar, as it had been for a long period, was more valuable than the gold dollar. In 1874 the decline commenced, and it has been continued until the silver dollar is worth only about 85 cents in gold, and further depreciation is prevented by its having been made receivable by the United States for all public dues and the coinage at the rate of \$28,000,000 a year. We now hold \$147,573,221.89 in silver. The amount is so large as to become burdensome, and additional vaults

must be soon constructed if the coinage is to be continued. But this is a matter of small importance compared with the danger to which the national credit and the business of the country are exposed by the large amount of silver in the Treasury, which must be increased by further coinage, and especially by the issue of silver certificates. These certificates amount to \$131,556,531, and they may be increased to \$184,730,829 by the silver against which certificates have not been issued. Like silver, they are only prevented from great depreciation by being receivable for all public dues, in which respect they have an advantage over the United States notes, which are not by law receivable for customs duties; but although they are thus prevented from depreciation, the fact exists that a large part of our paper currency based on coin is worth only about 85 cents on the dollar. But this is not all; the certificates, being receivable for duties, prevent gold from coming into the Treasury.

The Treasurer, in his report, after referring to the fact that the Treasury is a member of the New York Clearing-House, and to the act of Congress of July, 1882, which prohibits banking associations from being members of any clearing-house in which silver certificates are not receivable for clearing-house balances, and the resolution of the associated banks nominally complying with that act, remarks:

“Notwithstanding this formal declaration of compliance with law, neither standard silver dollars nor silver certificates have been or are now offered in settlement of balances at the clearing-house, and the Treasury has refrained from taking any steps to enforce the receipt of either of these descriptions of funds, which have therefore not been used in payment of obligations presented through the clearing-house.

* * * * *

“As a consequence of the inability of the Treasury, under the existing practice, to use either the silver dollars or the silver certificates in its settlements with the New York Clearing-House, where by far the greater part of its disbursements is made, the available gold ran down from \$155,429,600, on January 1, 1884, to \$116,479,979, on August 12, 1884, while the silver dollars and bullion on hand not represented by silver certificates outstanding increased during the same period from \$27,266,037 to \$48,603,958.

“As a temporary expedient to stop this drain of gold from the Treasury, the assistant treasurer at New York was directed to use in payments to the clearing-house United States notes to the extent of one-half of the payments. But the amount of these notes in the Treasury, which at the time of the commencement of this mode of payment had accumulated beyond its needs, has now become so much reduced that they are no longer available for such payments to any considerable extent.

“If a return to the former practice of making payments entirely in gold or gold certificates shall result in a continuous loss of gold to the Treasury, not made up to a sufficient extent by receipts of gold from other sources, the question must soon arise

for the decision of the Department as to whether it will continue to make in gold or its representative the payments now made through the clearing-house, or use in its payments the silver dollars or their representative certificates in some proportion to the relation which silver dollars in the Treasury, not held for certificates outstanding, bear to the available assets, and to an extent similar to that in which they are used at other offices of the Treasury.

“In ascertaining what this proportion is, it is to be considered that of the \$134,670,790 in gold coin and bullion now owned by the Government, \$95,500,000 was obtained by the sale of bonds under the resumption act.

“If it be held that this amount is available for no other purpose than the redemption of United States notes, the gold which may be used for ordinary payments is \$39,170,790, compared with \$46,831,660 in silver dollars, including bullion available for the same purposes.

“Or, if it be held that the provision in section 12 of the act of July 12, 1882, suspending the issue of gold certificates whenever the amount of the gold coin and bullion in the Treasury reserved for the redemption of United States notes falls below \$100,000,000, is by implication a requirement that this sum shall be held for the redemption of notes, then the balance of gold which may be used for ordinary payments is \$34,670,790.”

It is evident, from these extracts, and it will be rendered still more evident by an examination of the entire report, that silver certificates are taking the place of gold, and that a panic or an adverse current of exchange might compel the use in ordinary payments by the Treasury of the gold held for the redemption of the United States notes, or the use of silver or silver certificates in the payment of its gold obligations. As \$95,500,000 of the gold in the Treasury was obtained by the sale of bonds for resumption purposes, it was doubtless the intention of the eminent gentleman under whose administration of the Treasury specie payments were resumed that at least this sum should be held in reserve for the redemption of United States notes, and not used for any other purpose. It is understood that he went further than this, and very properly entertained the opinion that an amount of gold equal to 40 per cent. of the outstanding United States notes should be held for their protection.

A government which engages in banking by furnishing a paper circulating medium must be governed by the rules which prevail with prudent bankers, and be constantly prepared to meet such calls as may be made upon it.

Many persons regard legal-tender notes as being money, and hold that no means should be provided for their redemption. That this is a delusion will be proven whenever there is a large demand for gold for export. They are not money, but merely promises to pay it, and the Government must be prepared to redeem all that may be presented or forfeit its character for solvency.

The following is an analysis of the statement of the liabilities and assets of the Treasury of the United States, October 31, 1884:

	Total assets.	Liabilities.	Available assets.
Gold coin and bullion	\$222,533,300 43		
Gold certificates	32,477,750 00		
	255,014,110 43		
Less gold certificates outstanding.....		\$120,343,830 00	\$134,670,790 43
Standard silver dollars and silver bullion.....	147,573,231 89		
Silver certificates	30,814,970 00		
	178,388,191 89		
Less silver certificates outstanding.....		131,853,531 00	46,534,660 89
United States notes.....	33,942,171 85		
Certificates of deposit, (act of June 8, 1872)	85,000 00		
	34,027,171 85		
Less certificates of deposit outstanding.....		17,855,000 00	16,172,171 85
National-bank notes.....	10,171,655 48		10,171,655 48
Deposits in national-bank depositories	15,742,439 63		15,742,439 63
Total.....	493,343,509 28	209,754,851 00	223,588,718 28
The liabilities chargeable against the available as- sets were—			
For matured debt and interest.....		15,211,420 30	
For Post-Office Department account		8,714,015 24	
For disbursing-officers' balances and other small accounts.....		26,622,202 53	
For funds held for redemption of national-bank notes, &c.....		52,345,439 69	
For outstanding drafts and checks.....		7,205,799 71	
Total.....	493,343,509 28	874,853,808 47	105,098,957 47
Leaving a cash balance available of.....			118,489,760 81
Add assets not available for payments—			
Fractional silver coin.....	29,346,757 24		
Fractional currency and minor coin	817,888 44		
Paid obligations held in the cash.....	387,895 14		
			30,552,540 82
Cash balance, as per debt statement			149,042,301 63
Add "unavailable funds," Treasurer's statement ...			694,710 81
Balance, including bullion fund, Treasurer's statement.....			149,737,011 94
Total assets and liabilities.....	523,896,110 10	374,853,808 47	

From this statement it is seen that there is no surplus gold in the Treasury, and that the reserve has been trenched upon; that there is no plethora of any kind except of silver dollars, for which there is no demand.

After giving the subject careful consideration, I have been forced to the conclusion that unless both the coinage of silver dollars and the issue of silver certificates are suspended, there is danger that silver, and not gold, may become our metallic standard. This danger may not be imminent, but it is of so serious a character that there ought not to be delay in providing against it. Not only would the national credit be seriously impaired if the Government should be under the necessity of using silver dollars or certificates in payment of gold obligations, but business of all kinds would be greatly disturbed; not only so, but gold

would at once cease to be a circulating medium, and severe contraction would be the result.

The United States is one of the most powerful of nations—its credit is high, its resources limitless; but it cannot prevent a depreciation of silver unless its efforts are aided by leading nations of Europe. If the coinage of silver is continued in despite of the action of Germany in demonetizing it and the limitation of its coinage by what are known as the Latin nations, there can be but one result: silver will practically become the standard of value. Our mines produce large amounts of silver, and it is important, therefore, that there should be a good demand for it at remunerative prices for the outlays in obtaining it. The suspension of its coinage might depress the market price of silver for a time, but the ultimate effect would doubtless be to enhance it. The metal which oriental nations and some western nations use exclusively for coin—and all nations to some extent—which costs, in the labor and capital required to extract it from the mines, more than its standard value as coin, cannot be permanently degraded by artificial means. The production of gold is diminishing, that of silver has practically reached its maximum, and there are strong indications that from this time the yield of both gold and silver mines will speedily decline. At the same time the demand for both for coinage and in manufactures will increase. The very necessities of the commercial world will prevent a general and continued disuse of either as money. The European nations which hold large amounts of silver must sooner or later come to its rescue, and the suspension of coinage in the United States would do much to bring about, on their part, action in its favor. But whatever might be the effect of the suspension of the coinage upon the commercial value of silver, it is very clear that the coinage cannot be continued without detriment to general business and danger to the national credit.

The coinage of silver dollars under the act of February 28, 1878, has now reached the very large amount of \$184,730,829, being an increase of \$28,009,880 for the year ending November 1, 1884. The amount of these dollars in actual circulation is \$41,326,736. The increase in the circulation for the year has only been \$1,260,346, against an increase of \$4,136,321 for the previous year. These figures of themselves are an insuperable argument against the continued coinage of silver dollars.

The Treasury would be relieved, in a measure, from the burden of the silver now held in the Treasury by a withdrawal from circulation of the one and two dollar notes. This would not be a gain to the

Treasury, but it would be a gain to the country by increasing the amount of silver in circulation.

The amount of one-dollar notes in circulation is \$26,763,097.80; the amount of two-dollar notes in circulation is \$26,778,738.20. Congress would, I think, act wisely in putting an end to their circulation. Nor do I hesitate to express the opinion that the country would be benefited if all five-dollar notes should be gradually retired and the coinage of half and quarter eagles should be increased. If this should be done, the circulating medium of the United States below ten dollars would be silver and gold, and we should be following the example of France, in which there is an immense circulation of silver coin, which in all domestic transactions maintains a parity with gold.

The substitution of gold and silver for small notes would be productive of some inconvenience, but this would be temporary only. If the five-dollar notes should be withdrawn, the Treasury would be relieved from the burden of silver in its vaults, and it would not be long before the coinage of silver might be resumed.

COINS AND COINAGE.

The nominal value of the coinage at the mints of the United States during the fiscal year 1884 was \$27,932,824 of gold, \$28,773,387.80 of silver, and \$1,174,709.73 of minor coins, a total of \$57,880,921.53. Of the gold coinage, \$23,765,900 were in double-eagles, \$2,033,040 in eagles, and \$2,116,020 in half-eagles. Of silver, \$28,099,930 were in standard dollars, \$665,160.30 in dimes, \$4,465 in half-dollars, and \$3,832.50 in quarter-dollars.

The larger part, nearly six-sevenths, of the gold coinage was executed at the San Francisco mint, while the Philadelphia mint was chiefly occupied in coining silver and minor coins. Both gold and silver were coined at Carson, but only standard dollars at New Orleans.

Application having been made by the Hawaiian Government for the coinage of silver coins of the nominal value of \$1,000,000, authority was given to coin that amount at the San Francisco mint of the denominations and standards prescribed by the laws of that government, which conform in weight and fineness to those of similar United States silver coins, and the coinage was executed in accordance therewith.

Besides the conversion of bullion into coin, bars were manufactured and issued from the mints and assay offices of the value of \$23,875,585.57 gold and \$7,639,724.42 silver, a total of \$31,515,309.99. Gold bars of the value of \$25,419,530.15 were paid out in exchange for gold coin at the New York assay office, and \$381,269.71 at the Philadelphia mint, a

total of \$25,800,799.86, of which \$22,966,975.44 were delivered for shipment to Europe and the remainder for industrial uses.

For the coinage of standard dollars, \$24,378,383.91 worth of silver bullion was bought during the year, an average of \$2,031,532 per month. The mean New York price for silver bullion was \$1.1156 per ounce fine, and the average cost of the silver purchased was \$1.112.

The silver used in coining silver dollars, including the value of the silver wasted and sold in sweeps, cost \$24,203,572.67, being a monthly average of \$2,016,964.39.

The report of the Director of the Mint shows in detail and in tabular statements the operations of the mints and assay offices and the disposition of the bullion received, and contains valuable information in regard to the production, consumption, and circulation of gold and silver in the United States and in the world.

The mines of this country during the calendar year 1883 yielded of the precious metals, gold, \$30,000,000; silver, \$46,200,000—a total of \$76,200,000, and will probably produce nearly the same amount in the present year, as the receipts at the mints and exports indicate an increase in silver and slight decline in gold.

The coin of the United States is estimated to have been on the 30th of June, 1883, gold coin, over \$537,000,000; silver coin, \$228,000,000, and it has been increased during the fiscal year by coinage at the mints, and the import of United States coin, deducting the export and amount used in the arts, by \$13,000,000 in gold and \$22,000,000 in silver. On the 1st of October, 1884, it amounted to \$557,000,000 of gold, and \$257,000,000 of silver—a total of \$814,000,000. This does not include the bullion belonging to the Government at that date held at the mints and assay offices, aggregating nearly \$53,000,000 in gold and \$5,000,000 in silver—making the total in the country of coin and bullion available for coinage \$872,000,000.

The following are probably reliable estimates of the production of gold and silver for the last ten years:

Years.	Production of gold.		Production of silver.	
	United States.	World.	United States.	World.
1874	\$33,500,000	\$113,500,000	\$37,300,000	\$82,000,000
1875	33,500,000	113,500,000	31,700,000	82,000,000
1876	39,930,000	114,000,000	33,780,000	98,000,000
1877	46,900,000	114,000,000	39,800,000	81,000,000
1878	51,200,000	119,000,000	46,291,000	94,900,000
1879	38,900,000	108,700,000	40,800,000	96,170,000
1880	36,000,000	106,400,000	39,200,000	96,700,000
1881	34,700,000	108,000,000	43,000,000	102,150,000
1882	32,500,000	98,700,000	46,800,000	110,000,000
1883	30,000,000	94,000,000	46,200,000	114,200,000
Total	377,130,000	1,084,800,000	408,861,000	987,120,000

Recoinage and improvement of subsidiary coin.

The Secretary invites attention to the pressing necessity for the recoinage of the subsidiary silver coins of the United States. The decreased intrinsic value of these coins, owing to the marked decline in the price of silver, renders it advisable to increase their weight so that they will correspond to fractional subdivisions of the silver dollar.

The fractional silver coins of the United States were first authorized by the act of April 2, 1792, and were of full weight, being fractional portions of the dollar of 416 grains. As the silver dollar and its fractional parts were somewhat overvalued in that act, the weight of the dollar was changed by the act of January 18, 1837, to 412.5 grains, and the fineness from 892.4 to 900, the weight of the fractional silver coins being changed proportionally.

As the bullion value of these coins was still greater than their face value, it was found necessary, in order to keep them in the country for domestic use, to make them subsidiary to the silver dollar of that day. The act of February 21, 1853, therefore, reduced the weight of a dollar in fractional coin from 412.5 grains to 384 grains.

In the reorganization of the coinage laws, by the act of February 12, 1873, the weight of the fractional silver coins was again changed so as to correspond with the metric system, that law providing that a half-dollar should weigh 12.5 grams, which made the weight of one dollar in subsidiary silver 385.8 grains. This is the law at the present time.

As stated above, prior to 1873 the bullion value of the silver in the fractional silver coins exceeded the nominal value of the coins, but, owing to the decline in the price of that metal, the value of the silver in two half-dollars of the present coinage, or of one dollar in any fractional silver coined under existing law, is now only about 78 cents. This would seem to be out of any just proportion to the face value of the coins.

It is estimated that there are in the country at this time some seventy-five millions of dollars of fractional silver coins of the various weights and finenesses authorized by the acts stated above. Nearly \$30,000,000 of them are held in the Treasury, and are practically unavailable as an asset. A large portion of them is in a badly abraded condition, having been in circulation for a long period of years. To increase their bullion value so as to bring them up to the same weight proportionately as the silver dollar would require about four million (4,000,000) ounces of silver.

The reasons which existed at the time for making fractional silver coins subsidiary to the dollar have ceased to exist, and, as the price of silver is now lower than at any time since the summer of 1879, the present would seem a most favorable opportunity for accomplishing the needed improvement in these coins. The work could be effected by the mints during the next five years, in connection with the regular coinage authorized by law, without an increase of force or interference with such regular coinage.

The tendency of all nations is to improve and beautify the designs on their coins, and especially to make them uniform in weight as far as practicable. There is not only a marked diversity in weight among our coins of the same nominal value, but they are characterized by a great variety and exceeding inelegance of design and a lack of artistic merit. Should Congress authorize their recoinage, a much-needed opportunity would be furnished for rendering them more creditable as well as more useful to the country.

The trade-dollar.

The Secretary suggests that the existence of the anomalous trade-dollars should be no longer tolerated. Originally coined for purposes of foreign trade, and given a limited legal-tender quality in this country, they have not only been deprived of that quality by law, but have also ceased to perform the function for which they were created.

Some millions of them, variously estimated at from six to ten, are held in various parts of the country, awaiting the action of Congress. Although intrinsically more valuable than the standard dollar, their bullion value is now only about 86 cents. If it be considered unfair or impracticable to accomplish their surrender at their bullion value merely, a small advance on that value might be offered for them. The offer should not remain open longer than one year. The bullion realized from them will be available for the ordinary coinage of the Government, but, if the present silver law is to remain in force, such bullion should be counted as a part of that now required to be purchased each month.

PUBLIC MONEYS.

The monetary transactions of the Government have been conducted through the offices of the Treasurer of the United States, nine assistant treasurers, and one hundred and thirty-five national-bank depositories.

The gross receipts of the Government, amounting during the fiscal year, as shown by warrants, to \$555,397,755.92, (\$206,877,886 of which were on account of loans,) were deposited as follows :

In Independent Treasury offices.....	\$427, 658, 671 00
In national-bank depositories.....	127, 739, 084 92

Attention is again invited to the crowded condition of the vaults in the sub-treasury offices, occasioned by the great accumulation of standard silver dollars and redeemed fractional silver coins. The new vault just completed in the office of the Treasurer of the United States at Washington is the only one now available for further storage, the new vault at New Orleans being needed for the storage of silver accumulated at that point and that coined at the mint in that city. The vaults of the offices at Boston and Cincinnati have been somewhat relieved by transfers of silver to Washington, but there has been no transfer yet from the San Francisco office to the East, owing to the great cost of transportation and the inadequacy of the appropriation from which such cost is properly payable. The assistant treasurer at San Francisco has reported that his vaults are nearly full, and that there is no further space in his office available for the erection of another vault. He recommends the purchase of adjoining property for the purpose of providing additional vault-room.

There are also many millions of standard silver dollars in the mint at San Francisco which encumber the vault-space required to accommodate the current coinage, and which should be transferred if the coinage of such pieces is to be continued there, even in limited amount, as at present. The cost of transportation could be paid from the profit on their coinage, but they can be transferred to Washington only at a great expense, which the Department feels reluctant to incur, in view of the fact that such action would not distribute the coins or get them into circulation, but would simply change the place of their storage, and render it necessary hereafter for Congress to appropriate funds for their transportation from the Treasury, whenever the coins are distributed throughout the country.

Standard silver dollars.

Statement showing the amount of standard silver dollars in the several Treasury offices October 31, 1884.

In office of—	Standard silver dollars.
Treasurer United States, Washington.....	\$5,024,243
Assistant treasurer United States at Baltimore	8,146,351
Assistant treasurer United States at New York.....	26,208,000
Assistant treasurer United States at Philadelphia	9,455,800
Assistant treasurer United States at Boston.....	1,975,065
Assistant treasurer United States at Cincinnati.....	278,500
Assistant treasurer United States at Chicago	6,840,400
Assistant treasurer United States at Saint Louis.....	8,132,000
Assistant treasurer United States at New Orleans.....	8,013,001
Assistant treasurer United States at San Francisco.....	18,812,000
Mint of the United States at Philadelphia	7,876,905
Mint of the United States at New Orleans	12,072,658
Mint of the United States at Denver.....	7
Mint of the United States at Carson.....	2,942,306
Mint of the United States at San Francisco	32,607,492
Assay office of the United States at New York.....	5,423
Assay office of the United States at Saint Louis.....	2
Assay office of the United States at Helena.....	13,738
Assay office of the United States at Boisé City.....	680
Total	143,404,093

The following table shows the amount of silver dollars coined, on hand, distributed, and outstanding at the close of each year since the coinage was resumed :

Fiscal year ended June 30—	Annual coin- age.	Total coinage.	On hand at close of year.	Net distribu- tion during year.	Outstanding at close of year.
1878*	\$8,573,500	\$8,573,500	\$7,718,357	\$855,143	\$855,143
1879	27,227,500	85,801,000	28,358,589	6,587,268	7,442,411
1880	27,933,750	63,734,750	45,108,296	11,184,043	18,626,454
1881	27,637,955	91,372,705	63,249,300	9,496,951	28,123,405
1882	27,772,075	119,144,780	87,524,182	3,497,193	31,620,598
1883	28,111,119	147,255,899	112,362,510	3,272,791	34,893,389
1884	28,099,930	175,355,829	135,810,368	4,652,072	39,545,461

* Coinage began in March.

Silver certificates.

The total amount issued to November 1, 1884, was.....	\$191,790,000
The redemptions to the same date amounted to.....	60,233,469
Leaving nominally outstanding.....	131,556,531
There were nominally outstanding November 1, 1883...	99,579,141
Showing an increase of	31,977,390
The Treasury held on November 1, 1884.....	\$30,814,970
And on November 1, 1883	13,632,370
An increase of	17,182,600

Which deducted from the increase in the amount nominally outstanding, leaves an increase of..... \$14, 794, 790

The amounts *actually* outstanding (in circulation) were:
November 1, 1884..... \$100, 741, 561
November 1, 1883..... 85, 946, 771

An increase, as above, of 14, 794, 790

Gold certificates.

Statement of gold certificates of 1882 issued, redeemed, and outstanding.

Denomination.	Outstanding Nov. 1, 1883.	Total issues to Nov. 1, 1884.	Total redemp- tions to Nov. 1, 1884.	Outstanding Nov. 1, 1884.
Twenty dollars.....	\$12, 480, 900	\$14, 880, 000	\$1, 897, 500	\$12, 982, 440
Fifty dollars.....	9, 740, 700	10, 500, 000	1, 648, 400	8, 851, 600
One hundred dollars.....	9, 250, 600	10, 700, 000	1, 882, 600	9, 817, 400
Five hundred dollars.....	8, 652, 500	10, 500, 000	2, 003, 500	8, 496, 500
One thousand dollars.....	18, 118, 000	17, 000, 000	2, 604, 000	14, 896, 000
Five thousand dollars.....	8, 205, 000	15, 000, 000	4, 865, 000	10, 135, 000
Ten thousand dollars.....	18, 680, 000	74, 000, 000	20, 420, 000	58, 580, 000
Total.....	80, 122, 700	152, 580, 000	34, 821, 000	117, 758, 940

NOTE.—The amounts outstanding on the dates named, as shown by the public-debt statement, are greater: there being included the amounts of the gold certificates of the old issue outstanding, which were as follows: On November 1, 1883, \$3,206,240; on November 1, 1884, \$2,534,880.
The amounts held by the Treasury were: November 1, 1883, \$31,252,760; November 1, 1884, \$32,477,750.

Transportation charges on United States notes.

Attention is directed by the Treasurer to the need of an appropriation for the expense of transportation of worn and mutilated United States notes to the Treasury for redemption, and the return of new notes therefor.

In view of the fact that for many years Congress, by appropriating for this expense, recognized the duty of the Government to bear the entire cost of this currency, as the national banks are required to bear the expense of replacing their issues, and of the apparent discrimination in respect to facilities for redemption, against the holders of notes who cannot present them to an assistant treasurer without expense to themselves, it is urged that a sufficient amount be appropriated to pay the charges for the transportation of such notes for the remainder of this and for the ensuing fiscal year.

BUREAU OF ENGRAVING AND PRINTING.

Owing to the inadequacy of the appropriation for the preparation of United States notes, certificates, and bonds, for the fiscal year ended June 30, 1884, Congress was asked on January 5, 1884, for a deficiency appropriation. This not having been granted, the preparation of one-

dollar and two-dollar notes was suspended from January 21, 1884, until July 1, 1884, at which time the appropriation for the current fiscal year became available. In consequence of this, the Treasury was for a time unable to supply these notes. The appropriation for the current year, being but \$4,000 greater than that of last year, is believed to be insufficient to maintain a full circulation of small notes.

The Secretary has already expressed the opinion that the function of the one-dollar and two-dollar notes would be better performed by the silver dollar, and suggested that a withdrawal of such notes would furnish legitimate employment for a large portion of the vast store of standard dollars now idle in the Treasury vaults.

If it be determined, however, to keep legal-tender notes of the smaller denominations in circulation, I recommend the appropriation of the full amount asked for by the Chief of the Bureau of Engraving and Printing.

NATIONAL BANKS.

The number of national banks in operation November 1, 1884, was 2,672. The number of national banks organized during the year ending November 1, 1884, was 191, with an aggregate capital of \$16,042,230. Circulating notes have been issued to these new associations amounting to \$3,854,530. These new banks are located by geographical division as follows: Eastern States, ten banks, with capital of \$810,000; Middle States, twenty-five banks, with capital of \$1,812,250; Southern States, thirty banks, with capital of \$2,991,100; Western States, one hundred and two banks, with capital of \$8,905,880; Pacific States, five banks, with capital of \$380,000; Territories, nineteen banks, with capital of \$1,143,000.

Since the establishment of the national-banking system, on February 25, 1863, there have been organized 3,261 national banks. Of these, 489 have gone into voluntary liquidation by vote of shareholders owning two-thirds of their respective capital, and 100 have been placed in the hands of receivers for the purpose of closing up their affairs.

The aggregate capital of the national banks of the United States on October 1, 1884, was \$524,266,345; the surplus was \$147,045,833.28; the circulation was \$289,775,123; the individual deposits were \$975,259,295.14; the loans and discounts were \$1,240,070,797.02; the amount of specie was \$128,609,474.73; the United States bonds to secure circulation were \$327,435,000; and the United States bonds to secure deposits and for other purposes were \$30,419,600.

Eleven national banks, with an aggregate capital of \$1,285,000, have

failed and been placed in the hands of receivers during the year ended November 1, 1884. The corporate existence of eighty-nine national banks expired during the year, of which eighty-three have been extended under the act of July 12, 1882. The shareholders of five national banks have permitted their corporate existence to expire by limitation during the year, three of which were succeeded by other associations in the same places and with nearly the same shareholders, and one national bank was placed in voluntary liquidation by vote of shareholders owning two-thirds of its stock. The corporate existence of 721 national banks, with an aggregate capital of \$189,071,475, will expire during 1885.

It will be noted that the circulation decreased \$25,156,452 during the year. The bonds deposited to secure circulation, which decreased \$9,613,350 in 1883, were still further reduced \$25,442,300 during 1884—a reduction of \$35,055,650 in two years.

The 3 per cent. bonds of the United States have now been reduced to less than two hundred millions, and they will be further reduced through the operations of the sinking-fund by nearly fifty millions each year.

The market prices of the 4 per cent. and the 4½ per cent. bonds of the United States have declined somewhat during the past year; but that these bonds are still too high to enable banks to base circulation upon them at a profit is plain, from the fact that the circulation has been voluntarily decreased more than \$25,000,000 during the year.

Among the measures of relief recommended in the last report were an increase of the issue of notes to the face value of the bonds deposited, a bill to authorize which passed the Senate during the last session of Congress; the acceptance of the 3.65 per cent. bonds of 1924 of the District of Columbia, the payment of which is guaranteed by the United States; and a repeal of the tax on circulation. I earnestly commend these propositions to the wisdom of Congress, believing that, if adopted, they will enable banks which now contemplate a surrender of their circulation in consequence of the calling of their 3 per cent. bonds to maintain it on the long-time bonds with a small profit, or at least without loss.

Inasmuch as about \$135,000,000 of the circulation of banks is based upon our 3 per cent. bonds, which are now redeemable and being rapidly redeemed, remedial action cannot be postponed beyond the present session if a rapid reduction of our bank-note circulation is to be avoided. The subject is a very important one, and should receive immediate attention.

These, however, would be measures of temporary relief only. Something more must be done if the system is to be established on a permanent basis.

More than twenty years have passed since the national-banking system was adopted, and many people are not aware of the circumstances under which it came into existence. Prior to 1863 the paper circulation of the country was furnished by banks organized under State laws. The notes issued by these banks had a very limited credit, and none of them were perfectly secured. When it became apparent that large amounts of paper currency would be required by the Government in making payments and in the collection of the internal revenues, the question which presented itself to the Secretary, Mr. Chase, was: Can the notes of State banks be safely used by the Department for these purposes? Fortunately for the Government, and for the business of the country, the Secretary decided the question in the negative. It was his opinion, which coincided with the opinion of Congress, that a bank-note circulation perfectly secured and current throughout the Union had become an absolute necessity; hence the creation of our national-banking system. It is one of the most interesting facts in our financial history that the notes of the State banks were retired and their place taken by those of the national banks—an entire revolution effected in our banking system—without a ripple of disturbance to the business of the country.

That the national-banking system has been of great service to the Government in the collection of revenues; that it has furnished a bank-note circulation of uniform value, and safe beyond question, is admitted even by its opponents. Open to all who desire to engage in banking, free from anything which savors of monopoly, it is eminently adapted to our republican institutions. Banks of issue have been found necessary in all commercial nations, and it can be safely asserted that none, so far as circulating notes are regarded, are superior or equal to ours. All this being true, its preservation is a matter of national importance; its discontinuance would be a national calamity.

CUSTOMS.

The revenue from customs for the fiscal year ended

June 30, 1884, was	\$195, 067, 489 76
That for the preceding fiscal year was.....	214, 706, 496 93
Showing a reduction of.....	<u>19, 639, 007 17</u>

The total value of the imports of merchandise entered for consumption in the United States during the year ended June 30, 1884, was \$667,575,389, as against \$700,829,673 during the preceding fiscal year; the value of dutiable merchandise so entered amounted to \$456,295,124, as against \$493,916,384 during the preceding year; the value of merchandise free of duty amounted to \$211,280,265, as against \$206,913,289 during the preceding year; the average ad valorem rate of duty on dutiable merchandise was 41.702 per cent., as against 42.646 per cent. during the preceding fiscal year; and the average ad valorem rate of duty on free and dutiable merchandise was 28.503 per cent., as against 30.055 per cent. during the preceding fiscal year. These facts may be more concisely presented in tabular form, as follows:

Value of imported merchandise entered for consumption, and duties collected thereon.

Description.	Year ended June 30—	
	1883.	1884.
Merchandise free of duty.....	\$206,913,289	\$211,280,265
Dutiable merchandise.....	493,916,384	456,295,124
Total value of merchandise.....	700,829,673	667,575,389
Average ad valorem rates of duty on—	Per cent.	Per cent.
Dutiable merchandise.....	42.646	41.702
Free and dutiable merchandise.....	30.055	28.503

The following are the amounts of duty collected on the articles named during the years ended June 30, 1883 and 1884, respectively:

Articles.	1883.	1884.
1. Sugar, molasses, and confectionery.....	\$46,172,878	\$48,922,465
2. Wool, and manufactures of.....	32,820,800	32,001,236
3. Silk, manufactures of	19,654,946	18,982,210
4. Iron and steel, and manufactures of	16,590,504	14,739,117
5. Cotton, manufactures of	12,234,371	11,479,942
6. Flax, hemp, jute, and manufactures of.....	10,149,103	9,412,484
7. Tobacco, and manufactures of	7,661,638	6,945,852
8. Spirits and wines.....	8,741,958	5,730,646

The report of the Chief of the Bureau of Statistics gives a review of the effect of the tariff act of March 3, 1883, for the year ended June 30, 1884, to which special attention is invited.

QUARANTINE OF NEAT-CATTLE.

The act making an appropriation for the current year to establish and maintain quarantine stations, and provide proper shelter for and care of neat-cattle imported, provides that the same be expended by

the Commissioner of Agriculture, under the general supervision of the Secretary of the Treasury.

Heretofore the establishment and maintenance of such quarantine stations was exclusively in charge of this Department, but under the foregoing provision the Department of Agriculture has entire control of the whole matter, including the expenditure of the appropriation, subject only to the supervision of this Department as to approving the details of expenditure and making general regulations governing the importation. It is presumed that the Commissioner of Agriculture will make a report on the subject directly to Congress.

SPECIAL AGENTS.

It appears from the report, herewith transmitted,* of the Supervising Special Agent, who has charge of measures for the prevention and detection of frauds upon the customs revenue, that the most serious obstacle in the way of an honest collection of the customs duties is the widespread practice of undervaluing invoices of merchandise consigned to agents of European manufacturers. The consignment system seems to have largely grown up since the enactment of the act of June 22, 1874. This law, which requires the Government in certain customs cases to prove the intent to defraud the revenue as a separate and distinct proposition, is found by the law officers to be a constant barrier to the successful prosecution of frauds of this nature. In a recent decision of the United States court of the southern district of New York, it is held that the act in question repealed the law providing for forfeiture of the value of the goods where the merchandise fraudulently imported had gone into consumption.

Under this law and the ruling of the court, the Government has now no remedy where frauds upon the revenue have been successfully accomplished and the goods have passed beyond reach of the customs officers.

An ad valorem tariff without adequate means for its enforcement and penalties for its violation must inevitably result in loss to the revenue and to honest importers.

*See Appendix, page 61.

INTERNAL REVENUE.

The receipts from the various objects of taxation under the internal-revenue laws, as reported by the Commissioner of Internal Revenue for the fiscal years ended June 30, 1883 and 1884, were as follows :

Objects of taxation.	Fiscal year ended June 30—	
	1883.	1884.
Distilled spirits	\$73,368,775 20	\$76,905,885 26
Tobacco.....	42,104,249 79	26,062,309 98
Fermented liquors.....	16,900,615 81	18,084,954 11
Bank circulation.....	782 35	441 84
Penalties.....	305,803 57	289,144 12
Taxes under repealed laws	10,873,118 14	247,714 52
Total.....	144,553,344 86	121,590,039 83

These figures differ somewhat from the amounts actually covered into the Treasury as shown by the covering warrants.

From the above table it appears that the increase of revenue from spirits during the last fiscal year was \$2,536,610.06, and from fermented liquors, \$1,184,338.30.; the decrease in the receipts from tobacco was \$16,041,849.81, and from all sources, \$10,625,403.62. This large decrease is due to the act of March 3, 1883, which reduced the tax on manufactured tobacco, snuff, cigars, &c., and repealed the tax on the capital and deposits of banks and bankers not national, and the stamp-tax on bank checks, friction matches, patent medicines, &c.

The cost of collecting internal revenue during the last fiscal year was \$5,100,451.84. The estimated cost for the same work for the current year is \$4,984,590.

PRODUCTION OF SPIRITS.

The quantity of spirits produced and deposited in distillery warehouses during the fiscal year ended June 30, 1884, is greater than the production of 1883 by 1,422,431 gallons, but is less than that of 1882 by 30,417,422 gallons, and of 1881 by 42,292,411 gallons.

The increase in production of the fiscal year 1884, as compared with that of the fiscal year 1883, is distributed among the different kinds known to the trade as follows :

Increase in production of—	Gallons.
Bourbon whiskey	234,587
Rye whiskey.....	305,304
Alcohol.....	1,666,523
Gin.....	95,956

	Gallons.
Pure neutral or cologne spirits.....	243, 427
Miscellaneous.....	923, 699
Total increase ..	8, 469, 496
Decrease in production of—	
	Gallons.
Rum.....	90, 802
High wines.....	1, 956, 263
Total	2, 047, 065
Net increase.....	1, 422, 431

IMMIGRATION.

The experience of another year in the administration of the “act to regulate immigration,” approved August 3, 1882, seems to justify a renewal of the recommendation of my predecessor in his annual report of last year, looking to a modification of the existing law.

The double capacity in which the State boards of immigration act, namely, as Federal and as State officers, as required by this act, tends to render the execution of the law uncertain and inefficient. The duty of securing the return of alien convicts to the countries whence they came is, by the fourth section of this act, imposed on State officers, without any remuneration. The proceedings of the return of such convicts must be taken by such officers, under the provisions of “An act supplementary to the acts in relation to immigration,” approved March 3, 1875—proceedings so circuitous and complex as to render a return of convicts nearly impossible.

There is no provision in the act for the purchase or care of property, such as vehicles or edifices needed for the due execution of the law. The receiving of immigrants on their arrival in this country, when sick or temporarily physically disabled, necessitates a resort to the use of vehicles for transportation, and frequently the shelter of a hospital or other edifice of like character.

Applications from the boards of immigration at Baltimore and Galveston for authority to erect on the docks of those cities buildings simply for receiving immigrants on landing, on the ground of an imperative demand for them, are now before the Department; but the authority to appropriate the proceeds of the immigration fund for that purpose is, under the law, doubtful.

No contracts with State commissioners to administer the local affairs of immigration have been made within the past year. The commis-

sioners who had previously been contracted with, viz., those at Portland, Me., Boston, New York, Philadelphia, Baltimore, Key West, and Galveston, are still in the exercise of their functions at their respective ports. At most of the other ports the receipts of tax have been found insufficient to warrant the designation of commissioners, and as a consequence, there being no agencies for the employment at such ports of the fund there collected as capitation tax, such collections have been, and still continue to be, covered into the Treasury without being in any way made available in the conduct of the affairs of immigration at the respective ports where collected. To obviate this, it is recommended that, in such cases, discretionary power be conferred on the Secretary of the Treasury to designate collectors of customs or their deputies to act as commissioners of immigration at their respective ports, with special compensation therefor, if deemed advisable.

Certain questions have arisen, in the course of the administration of the law, as to the extent of the jurisdiction of boards of immigration over immigrants that have been landed. At some of the ports where immigration boards are in operation, particularly at New York, some difficulty has been experienced in determining where the examination of passengers should be made. The law, by implication, requires that such examinations shall be made on shipboard before the passengers have been landed. At ports where large numbers of immigrants arrive at one time, it has been found inconvenient, if not impracticable, to carry such requirement into practice, and, therefore, such examination has been conducted at some designated place of landing under the control of the board of immigration. For instance, the examinations at New York are made at Castle Garden.

A point was raised in a case recently before the United States court at New York bearing on the question of the authority, under the law, to return on shipboard for deportation parties who, having been landed, are found to be of a class whose landing is prohibited. While the court intimated, upon a point outside of the issue, that a place for the landing and subsequent examination of passengers might be designated under the law, it is recommended that further legislation be had, giving specific authority to make such designations.

The immigrant act of August 3, 1882, imposes no penalty for the landing of persons of the prohibited classes. The "Passenger act" of August 2, 1882, (section 9,) imposes a fine not exceeding one thousand dollars on the master of a vessel from a foreign port for allowing passengers to land without the consent of the customs officer in charge. While this latter might be invoked as prescribing a penalty for a vio-

lation of the former act, it is recommended that a special penalty of a reasonable amount be prescribed for the violation of the immigrant act in respect to the landing of passengers, and that such penalty be made a lien upon the transporting vessel. It is also recommended that the moneys so collected as penalties be made a part of the immigrant fund to be employed as provided by the immigrant act, as well as for the deportation of passengers illegally landed. If the recommendation hereinbefore made be adopted, viz., that passengers may be landed at designated places for examination, the penalty suggested should be made to apply in cases where, having been so landed and examined, they are found to be of the proscribed classes.

The section of the "Passenger act" above referred to (section 9) forbids the master to allow any one to go on board his vessel after her arrival, but before the customs officer takes charge, "except a pilot, officer of the customs or health officer, agents of the vessel, and consuls." The commissioners of immigration are not allowed to board the vessel until after an officer has taken charge. It will thus be seen that the agents of the vessel may, with the consent of the master, board the vessel in advance of the commissioners, and so be afforded an opportunity to interview the immigrants without hinderance to prepare them for the subsequent examination, so that the prohibition of the law in respect to the landing of certain classes may be avoided. It is, therefore, recommended that the law be so amended as to allow the commissioners of immigration or their representatives equal privileges with the agents of vessels in respect to boarding.

The receipts and disbursements on account of the immigrant fund, for the fiscal year ended June 30, 1884, as shown by covering and disbursing warrants, respectively, were as follows: Receipts, \$224,286.50; disbursements, \$235,443.86. The apparent excess of expenditures over receipts for the fiscal year is accounted for by the fact that such excess was paid from an unexpended balance of receipts of the preceding fiscal year, amounting to \$104,130.53.

The following statement shows the immigration at the several ports of the United States:

Number of immigrants arrived in the United States, by customs districts, during the years ended June 30, 1883 and 1884.

Customs districts.	Year ended June 30—		Decrease.
	1883.	1884.	
New York	406,597	354,702	51,895
Boston and Charlestown	43,188	35,036	8,152
Huron	45,393	29,751	15,642
Baltimore	35,690	35,507	183
Philadelphia	24,808	18,961	5,827
Detroit	17,166	20,341	*9,175
San Francisco	8,191	1,735	6,456
Passamaquoddy	3,860	2,348	1,512
Puget Sound	1,153		2,153
Portland and Falmouth	1,845	1,716	129
New Orleans	1,707	4,063	*2,356
Galveston	1,535	1,958	*423
All other districts	5,589	6,424	185
Total	608,322	518,592	84,730

*Increase.

The following statement shows the nationality of immigrants:

Number and nationalities of immigrants arrived in the United States during the years ended June 30, 1883 and 1884, respectively.

Country of last permanent residence or citizenship.	Year ended June 30—		Decrease.	Decrease.
	1883.	1884.		
England	63,140	55,918	7,222	Per cent
Ireland	81,498	63,344	18,142	22.3
Scotland	11,859	9,060	2,799	23.6
Great Britain, other	1,607	972	635	39.5
Total United Kingdom	156,093	129,294	26,798	17.2
Germany	194,786	179,676	15,110	7.7
Sweden	38,277	26,552	11,725	30.6
Norway	23,306	10,974	12,332	52.9
Denmark	10,319	9,202	1,117	10.8
Switzerland	12,751	9,386	3,365	26.4
France	4,321	3,006	1,315	30.4
Italy	31,792	16,510	15,282	48.1
Other Europe	46,918	61,074	*14,066	30.0
Dominion of Canada	70,241	60,584	9,657	13.7
China	8,031	279	7,752	96.5
All other countries	3,896	5,523	*1,627	41.7
Total	608,322	518,592	84,730	14.0

*Increase.

REVENUE MARINE.

The Revenue Marine maintains its position of usefulness and efficiency. The vessels now number thirty-eight, manned by about 950 officers and men, and are so stationed as effectually to cover the whole coast of the country.

The work of the service for the fiscal year last past is represented, statistically, as follows:

Aggregate number of miles cruised by vessels.....	317, 843
Number of merchant vessels boarded and examined.....	26, 282
Number of merchant vessels found violating law in some particular and seized or reported to proper authorities..	2, 270
Fines or penalties incurred by vessels so seized or reported.....	\$683, 642.39
Number of vessels in distress assisted.....	246
Value of vessels and their cargoes imperilled by the sea to which assistance was rendered.	\$7,015,572.00
Number of persons on board vessels assisted	3, 310

Sixty-three persons were picked out of the water and saved from drowning.

The cost of conducting the service for the past year was \$851,311.86.

The special work of the service has been unusually important. Four of the vessels were employed last spring in the waters of the Gulf of Mexico in preventing violations of the neutrality laws. Added to the regular work, the whole fleet has been employed during the season in maintaining a sanitary patrol upon our coast against the introduction of cholera and yellow fever, while four of the vessels have, in co-operation with the Marine-Hospital Service, kept up rigid national quarantine at the entrances to Delaware and Chesapeake bays and in the Gulf.

In compliance with the law requiring the Secretary of the Treasury to use revenue-vessels for the protection of the Government's interests in Alaska, the revenue-steamer "Corwin," under command of Captain Healy, has cruised industriously in the waters of Alaska and upon our coast within the Arctic ocean, with signal public benefit, seizing one schooner engaged in the unlawful killing of seals, assisting the crew of a shipwrecked whaler, succoring destitute miners, and making useful surveys and explorations.

The rebuilding of the revenue-steamer "Perry," at Buffalo, N. Y., has been completed during the year, and that vessel placed on duty at Erie, Pa., her former station. She proves an able and effective vessel, and constitutes a valuable addition to the fleet.

Three steamers of the service have been thoroughly overhauled and repaired in the hulls, and furnished with new boilers.

The steamer "Crawford," which has been laid up for several months as unseaworthy, has an engine of superior make. It is recommended that this vessel be rebuilt with iron hull, (utilizing the present engine,) for service in southern waters. For this purpose the sum of \$70,000 is included in the estimates.

Of the two small steamers engaged in harbor duty at the port of New York, neither is adapted for the work now required of them, and one is reported in need of extensive repairs. The sum of \$50,000 is required for the construction of such a vessel as the public interests demand for this duty, and recommendation is made accordingly.

Attention is invited to the recommendations of five former reports that a vessel be provided for duty in Alaskan waters. The growing importance of this vast territory renders the subject of increased interest, while the results of the annual cruising of the revenue-cutters in the Alaskan region show the practical utility of the work performed. It is believed that this service cannot be abandoned without serious public loss.

LIFE-SAVING SERVICE.

The operations of this service have continued during the year with unabated success.

The number of the stations at the close of the year was 201. There were 337 disasters to documented vessels within the scope of their action. On board these vessels there were 4,253 persons; of these, 4,237 were saved, and 16 lost. The number of shipwrecked persons succored at the stations was 532, who received in the aggregate 1,319 days' relief. The value of property involved is estimated at \$10,530,025; of this, \$9,090,134 was saved, and \$1,439,891 lost. The number of vessels totally lost was 64.

The assistance in saving vessels and cargoes has been greater than ever before, 390 vessels having been worked off when stranded, repaired when damaged, piloted out of dangerous places, and similarly assisted by the station crews. There were also 240 instances of vessels being warned off by night-signals when running dangerously near shore, and thus probably saved from partial or total loss.

Besides the foregoing, there were 102 disasters to small craft, such as sail-boats, row-boats, &c., involving the lives of 179 persons. Of these, 175 were saved, and 4 lost. The property represented in these cases amounted to \$77,915, of which \$71,220 was saved, and \$6,695 lost. The aggregate is as follows:

Total number of disasters.....	439
Total value of property involved.....	\$10,607,940
Total value of property saved.....	\$9,161,354
Total value of property lost.....	\$1,446,586
Total number of persons on board.....	4,432
Total number of persons saved.....	4,412

Total number of persons lost.....	20
Total number of shipwrecked persons succored at stations..	532
Total number of days' succor afforded	1,319
Total number of vessels lost.....	64

Besides the persons saved from vessels as above shown, there were 21 rescued who had fallen from wharves, piers, &c., and would probably have been lost but for the assistance rendered.

The investigations held in each case of loss of life show that the life-saving crews did their entire duty, and that the persons who perished were in every instance beyond human aid.

The cost of the maintenance of the service during the year has been \$766,834.64.

Five new stations have been established and put in operation since the date of the last report: One at Brenton's Point, Rhode Island; one at Lewes, Del.; one at North Beach, Maryland; one at Wallop's Beach and one at Parramore's Beach, Virginia. A station has also been rebuilt at Barnegat City, and another at Chadwick's, both on the coast of New Jersey. A station at the mouth of Portage Lake and Lake Superior Ship-Canal, Michigan, is also in process of construction, and five houses of refuge on the Florida coast are under contract for building. Proposals have also been invited for the construction of a station near Charleston, S. C., another at Jupiter Inlet, Fla., and a third at Santa Rosa Island, Fla. Titles have been secured to twelve sites on different parts of the coast, and preparations are being made for the establishment of stations thereon.

MARINE-HOSPITAL SERVICE.

During the last fiscal year 44,751 patients received relief—13,078 were treated in hospitals, and 31,673 at the dispensaries. The usual number of surgical appliances and orders for transportation were furnished. The receipts from all sources were \$421,348.59, and the expenditures, \$465,387.45. This includes \$37,460.08 expended for extraordinary alterations and repairs upon hospital buildings. Of the hospital patients treated, 8,954 recovered, 2,718 were improved, 665 remained unaffected by treatment, and 489 died. There were 2,707 persons physically examined by officers of this service at relief stations, some of them preliminary to shipment in the merchant marine and enlistment in the Revenue-Marine, Light-House, and Life-Saving Services. The larger number (1,850) were applicants for pilots' licenses, examined for color-blindness, of whom 41 were rejected for this defect. The examinations for pilots should be extended to acuteness of vision and hearing, which are as important defects as color-blindness. The gen-

eral condition of the hospital buildings has been improved during the year, and of the new hospitals in course of construction the one at Memphis has already been occupied, and those at New Orleans, Cairo, and Cincinnati, will probably be occupied before the close of 1884; but additional appropriations are needed for the completion of the hospitals at New Orleans and Cairo.

The recommendations heretofore made for the establishment of a National Snug Harbor, or Sailors' Home, are also renewed.

The recommendation of the Surgeon-General for the purchase of the Seamen's Retreat property at Staten Island, New York, as recommended by my predecessor, which recommendation was subsequently adopted by the Committee on Commerce of the present Congress, (Report No. 1039,) is respectfully renewed, and early action on the part of Congress is suggested. Without action the service at New York will probably be without a hospital when the lease of the building terminates, in May next. A return to the old contract system, formerly in vogue at that port, would, in my judgment, be highly injurious to the service.

Of the two appropriations "for preventing the spread of epidemic diseases," of \$100,000 each, under the acts approved August 7, 1882, March 3, 1883, and July 7, 1884, the available balance on hand is \$65,000. The appropriation has been expended in the maintenance of quarantine in the manner set forth in former reports.

The immunity which this country has enjoyed from a visitation of epidemics during the past year may be properly attributable as well to the vigilant and efficient work performed by the various branches of service in this Department, acting conjointly with the Department of State, as to those natural causes which may have retarded the movement of epidemic diseases.

The Department, in pursuance of the proclamation of the President, dated July 19, 1884, directing extreme vigilance in measures for the prevention of the introduction of contagious diseases, among other precautions, has issued various orders providing for the restriction and temporary prohibition of the importation of old rags and of the admission of baggage of immigrants and returning travellers from infected countries.

In view of the recent outbreak of cholera in France, this subject has assumed great importance, both as affecting the health of the country and the interests of those engaged in the importation of rags and the manufacture of paper. Doubt has been expressed whether, under existing laws, sufficient authority is vested in any Department to prevent the

importation of infected merchandise. It is recommended that such legislation be provided as may be deemed proper to protect our country from the introduction of contagious diseases through its foreign commerce.

The item in the Book of Estimates providing for an inspection of foreign quarantines and maritime hospitals is approved, in the belief that an examination of the methods employed by the enlightened nations of the world would be of benefit to this Department in devising and carrying out quarantine measures in this country.

It appears that the tonnage-tax which is now appropriated for the support of the Marine-Hospital Service is insufficient, and an appropriation is asked to supply the deficiency.

STEAMBOAT-INSPECTION SERVICE.

Statistics of this service for the last fiscal year :

Divisions.	Steamers inspected.	Tonnage.	Officers licensed.
Pacific coast	387	99,533.40	1,752
Atlantic coast.....	2,457	461,642.20	9,899
Western rivers.....	936	184,231.84	5,476
Northern lakes.....	1,296	257,083.13	5,410
Gulf coast	877	70,861.43	2,311
Total.....	5,453	1,073,351.50	24,849

Increase in number of vessels inspected.....	120
Decrease in tonnage*.....	261,580.54
Increase in number of officers licensed.....	1,556

Receipts.

From inspection of steam-vessels.....	\$171,340 60
From sales of licenses	12,424 00
From sales of locks	10 00
Total.....	183,774 60

Expenses.

Salaries of inspectors and clerks.	\$206,218 56
Travelling and miscellaneous expenses.....	41,585 45
Marshal and witness fees.....	1,319 45
Total.....	249,123 46
Excess of expenditures over receipts	65,348 86

* Decrease caused by reduction from gross to net tonnage.

Accidents resulting in loss of life, and number of lives lost during the fiscal year :

Character of accident.	Number of accidents.	Number of lives lost.
Explosions or accidental escape of steam.....	11	80
Collisions	18	36
Fires.....	8	14
Snags, wrecks, and sinking.....	1	139
Accidental drowning		44
Miscellaneous causes		8
Total	33	271
Number of lives lost in 1883.....		284
Decrease in 1884.....		13

Inspection of foreign steam passenger vessels under the act of Congress approved April 5, 1882.

At New York, (including twenty-one inspections on the lakes).....	148
At Boston, (including eight inspections at Portland, Me.).....	28
At Philadelphia, (including eighteen inspections on the lakes).....	23
At Baltimore, (including two inspections at Newport News).....	11
At New Orleans.....	6
At San Francisco.....	6
Total number of steam-vessels inspected	222

The expenses for this service have been as follows :	
For salaries.....	\$34,277 00
For contingent expenses.....	3,319 05
Total.....	37,596 05

LIGHT-HOUSE ESTABLISHMENT.

The Light-House Board reports that it has established, under due Congressional authorization, 19 new light-stations, and discontinued 2, thus increasing the whole number on the United States coasts from the 755 reported last year to 772 at the end of the last fiscal year. The number of movable river lights was increased from 972 to 1,049, making an increase of 77 during the fiscal year. Another steam fog-signal was established, making the present number 67, including those operated by hot air. Two new whistling buoys were placed in position, making the whole number 34. Six bell buoys were added to the 23 in place at the end of last year, making the present number 29, and 2 lighted buoys, which were placed on the shoals off Cape Charles and

Cape Hatteras, make their first appearance on the light-house list. There were 54 more ordinary buoys, including the 14 placed in Alaskan waters, added to the list, increasing the number from 3,422 at the end of last year to 3,476 at the end of this year.

The Board has finally succeeded in constructing and putting into effective operation a lamp for first-order lights, in which mineral instead of lard oil can be burned, and it now has in use, practically, but the one illuminant throughout the service.

The Board has also, after surmounting many difficulties, succeeded in establishing an electric light at Hell Gate, N. Y., which, on the night of October 20, 1884, was lighted for the first time. It is the only one used in the light-house operations of any country for illuminating, as by artificial daylight, a narrow channel.

The commerce of our country is to be congratulated on the high stand taken by our Light-House Establishment among those of other countries, as shown by the medals and diplomas awarded the Board at the various international exhibitions where it has shown its apparatus and its methods.

Attention is called to the statement made by the Light-House Board, in its annual report, as to the inconvenience to which it is now subject, and as to its need of a special building for its museum, its laboratory, its archives, and its office. The rooms in the Treasury building now occupied by the Board are much needed for other purposes, while the Board can go elsewhere without serious detriment to its business or that of the Department. The Board is now so cramped for room that its archives are not readily accessible, and are not as safely kept as they should be. Its clerks are seated so closely that they have not sufficient room, and as it was not designed to put so many people in any one room, they suffer in health and the work they are engaged upon is in consequence delayed.

The models of the structures it has built, which are needed in studies for new structures, are inaccessible, both to the Board and to the scientific public, for lack of room in which to arrange and display them. All the experiments of the Board have to be made at the laboratory at Staten Island, because of the lack of room for a laboratory here, thus occasioning much expense and delay, and sometimes rendering desirable experiments practically impossible.

The Secretary is, therefore, of the opinion that proper appropriation for a building for the Light-House Board should be made at an early day.

The annual report of the Board contains full details of the work done during the last fiscal year.

COAST AND GEODETIC SURVEY.

Developments and discoveries having an important bearing upon the interests of commerce and navigation have been made during the operations of this service. Prompt information has been given of these discoveries by the publication of "notices to mariners." Tide tables for the ports on the Atlantic and Pacific coasts have been published for 1885; progress has been made in the publication of the Atlantic Coast Pilot, and a new edition of the Pacific Coast Pilot is nearly ready for the press. A table of depths has been published for the harbors of the coasts of the United States.

Twenty-four new charts have been published, and the drawings of forty more have been in progress. Distribution has been made of 33,638 charts, of which number 12,248 were for the use of the Government.

The field-work of the Survey has made progress commensurate with the appropriations. In his report herewith submitted, the Superintendent renews his recommendation for an increase in the amount available for field parties. This recommendation met with the approval of the Department last year, being based on grounds of a reasonable economy, and the increase asked for being demanded by a fair consideration of the growth and development of the country. It is again commended to the favorable attention of Congress. The efficient conduct of this work will, in the judgment of the Department, be promoted by more liberal appropriations.

PUBLIC BUILDINGS.

During the last year work has been in progress on forty-two new buildings, under the direction of the Supervising Architect, of which number sixteen have been commenced, five completed, and two others practically completed.

The expenditures during the year on all new buildings, including sites, have amounted to \$2,772,413.58; for repairs and preservation of public buildings, \$164,102.32; for heating, hoisting, and ventilating apparatus, and repairs to same, \$135,000; for vaults, safes, and locks, \$80,362; and for storage of silver dollars, \$85,402.32.

The Supervising Architect, in his annual report, refers to three conditions which, under provisions of existing law, operate to the disadvantage of the Government, viz:

1. The limit of cost of public buildings appear in many cases to have been fixed without sufficient regard to the needs of the public service in cities where the buildings are to be constructed.

2. The appropriations made from time to time within the limits of cost are often inadequate for the proper prosecution of the work after its commencement.

3. Under existing law, no contract can be made binding the Government to an expenditure in excess of an existing appropriation.

The remedies suggested by the Supervising Architect commend themselves to my judgment.

HALL OF RECORDS.

Attention is called to the paragraph in the annual report of last year relating to the necessity for the construction of a building for the safe and convenient storage of the files and records of the several Departments. This matter is of such grave importance that I recommend the construction of a building for this purpose at the earliest practicable date.

THE PACIFIC RAILROADS.

I earnestly direct attention to the provisions of the act of May 7, 1878, creating a sinking-fund for the Union Pacific and Central Pacific Railroad Companies, in the hope that Congress may devise a method for a more judicious investment of that fund. The law now requires the fund to be invested in bonds of the United States; and in making such investments the five per centum bonds are to be preferred, unless, for good reasons appearing to him, and which he shall report to Congress, the Secretary of the Treasury shall at any time deem it advisable to invest in other bonds of the United States. The five per centum bonds have all been redeemed or have ceased to bear interest, and while it would be manifestly unjust to select for investment the three per centum bonds only to be called in for redemption at short intervals thereafter, the only alternative is investment in the higher-rate bonds which now sell in the market at prices ranging from 13 to 28 per centum premium.

I deem the plan recommended by Secretary Sherman, in a communication to Congress, in December, 1879, and again in June, 1880, that investment be made in the first-mortgage bonds of the companies, worthy of the consideration of Congress.

The amounts standing to the credit of the fund available for investment on November 1, 1884, are as follows:

For the Union Pacific Railway Company.....	\$2, 600, 023 85
For the Central Pacific Railroad Company.....	1, 812, 435 91
Total.....	<u>4, 412, 459 76</u>

The attention of Congress is also invited to the act of March 3, 1879, (20 Stat., p. 420,) relating to transportation services performed for the Government by the Pacific Railroad Companies, the terms of which should be so modified as to embrace *all services* which have been, or may be hereafter, performed for the Government, and also include in its provisions the Central Branch Union Pacific Railroad Company.

DISTRICT OF COLUMBIA.

The net expenditures on account of the District of Columbia for the fiscal year 1884, were \$3,407,049.62. The revenues deposited in the Treasury on this account for the same period were \$1,970,726.13.

Since December 1, 1883, there has been retired through the operation of the sinking-fund, \$264,700 of the bonded indebtedness of the District, reducing the amount annually required for interest \$15,432.55.

Since the duties of the commissioners of the sinking-fund of the District of Columbia were devolved on the Treasurer of the United States by the act of Congress of June 11, 1878, there has been retired \$1,640,050 of the funded debt, causing a reduction in the annual interest charge of \$96,286.22.

The amount realized from the sale of the bonds in which the ten per centum retained from contractors in the District of Columbia was invested as required by the act of June 11, 1878, (20 Stat., 106,) has exceeded the sum necessary to pay the amounts originally withheld, owing to the advance in the securities in which the investments were made. The surplus has been covered into the Treasury as miscellaneous receipts on account of proceeds of sales of guarantee-fund, District of Columbia, to be hereafter disposed of as Congress may direct. One-half of the amount originally retained was paid by the United States, and one-half by the District of Columbia.

ALASKA.

The Alaska Commercial Company took during the present season 100,000 seal-skins on the islands of Saint Paul and Saint George, the maximum number allowed by law, of which 94,960 have been shipped to San Francisco and the tax thereon paid, the rest still remaining on the islands awaiting shipment. The company has paid its annual rental and otherwise performed the conditions of its lease.

A STATUTE OF LIMITATIONS ON CLAIMS.

The necessity of legislation for the adjudication of claims coming within the jurisdiction of this Department has frequently been urged, and is again brought to the attention of Congress in the belief that

some limitation of time will be adopted within which such claims shall be presented for settlement.

The enactment of a measure similar to the one introduced in the House at the last session of Congress, (H. R., 7235, section 2,) will, it is believed, relieve the accounting officers of much importunity on the part of claimants, and dispose of difficulties which have hitherto stood in the way of a final disposition of many of these claims.

The several reports of the heads of offices and bureaus are herewith transmitted.

HUGH McCULLOCH,
Secretary.

To the Honorable

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

P A P E R S
ACCOMPANYING
THE REPORT OF SECRETARY OF THE TREASURY.

REPORT OF THE COMMISSIONER OF INTERNAL REVENUE.

TREASURY DEPARTMENT,
OFFICE OF INTERNAL REVENUE,
Washington, October 30, 1884.

SIR: I have the honor to submit the annual report of the Commissioner of Internal Revenue for the fiscal year ended June 30, 1884.

In order that you may have a clear view of the condition of the public business intrusted to my charge, I also include certain additional information relative to the work of the Bureau during the months of July, August, and September of the present year.

You will also find in the appendix to the bound volume of this report carefully prepared tabular statements as follows:

Table A, showing the receipts from each specific source of revenue, and the amounts refunded in each collection district, State, and Territory of the United States, for the fiscal year ended June 30, 1884.

Table B, showing the number and value of internal-revenue stamps ordered from the office of the Commissioner; the receipts from the sale of stamps and the commissions allowed thereon; also the number and value of stamps for special taxes, tobacco, cigars, cigarettes, snuff, distilled spirits, and fermented liquors, issued monthly to collectors during the fiscal year ended June 30, 1884.

Table C, showing the percentages of receipts from the several general sources of revenue in each State and Territory of the United States to the aggregate receipts from the same sources, by fiscal years, from July 1, 1863, to June 30, 1884.

Table D, showing the aggregate receipts from all sources in each collection district, State, and Territory of the United States, by fiscal years, from September 1, 1862, to June 30, 1884.

Table E, showing the receipts in the United States from each specific source of revenue, by fiscal years, from September 1, 1862, to June 30, 1884.

Table F, showing the ratio of receipts in the United States from specific sources of revenue to the aggregate receipts from all sources, by fiscal years, from July 1, 1863, to June 30, 1884.

Table G, showing the returns of distilled spirits, fermented liquors, manufactured tobacco, snuff, cigars, and cigarettes, under the several acts of legislation and by fiscal years, from September 1, 1862, to June 30, 1884.

Table H, showing the receipts from special taxes in each State, and Territory for the special-tax year ended April 30, 1884.

Table I. Abstract of reports of district attorneys concerning suits and prosecutions under the internal-revenue laws during the fiscal year ended June 30, 1884.

Table K. Abstract of seizures of property for violation of internal-revenue laws during the fiscal year ended June 30, 1884.

PRESENT NUMBER OF COLLECTION DISTRICTS.

After fully carrying out the scheme of consolidation of collection districts contemplated by the executive order of the President, dated June 25, 1883, as subsequently modified, the number of internal-revenue districts is now eighty-five.

ESTIMATE OF COLLECTIONS FOR PRESENT FISCAL YEAR.

It is estimated that the sum of \$115,000,000 will be collected during the present fiscal year from the various sources of internal revenue.

As anticipated in my last report the collections for the fiscal year 1884, reached over one hundred and twenty millions (viz, \$121,590,039.83).

Payment of the tax on the large production of spirits in 1881 was a material factor in this result. The falling off anticipated during the present year will follow from the diminished quantity of bourbon and rye whiskies produced in 1882, on which the tax will mature during the current fiscal year. Another cause contributing to the reduction of receipts will be the largely increased exportation abroad of spirits in bond, on which, for various reasons, the owners cannot pay the tax.

Something like 10,000,000 gallons have already been forced abroad during the current calendar year because of stagnation in trade and the refusal of Congress to extend the bonded period.

COMPARATIVE RECEIPTS FOR THE LAST TWO FISCAL YEARS.

The total receipts from all sources of internal revenue taxation for the fiscal year ended June 30, 1884, were \$121,590,039.83 as compared with \$144,553,344.86 for the year 1883, \$146,523,273.72 for the year 1882, and \$135,229,912.30 for the year 1881.

The following statements will exhibit detailed information of the amount of internal revenue collected during the past year, and also for the first three months of the present fiscal year, of the sources from whence the revenue is derived, of the States and districts in which the collections during the past year were made, the cost of collections, &c.

COMPARATIVE STATEMENT showing the RECEIPTS from the SEVERAL OBJECTS of INTERNAL TAXATION in the UNITED STATES during the fiscal years ended June 30, 1883 and 1884.

Objects of taxation.	Amount of tax paid during fiscal years—		Increase.	Decrease.
	1883.	1884.		
SPIRITS.				
Spirits distilled from fruit	\$1,197,959 25	\$1,022,850 85	.....	\$104,599 40
Spirits distilled from grain and other materials	67,957,908 48	70,631,800 48	\$2,673,954 00	.....
Rectifiers (special tax)	189,800 12	183,872 92	.....	5,927 20
Retail liquor-dealers (special tax)	4,624,587 77	4,597,139 33	.....	27,448 44
Wholesale liquor-dealers (special tax) ..	455,915 51	448,840 51	.....	7,075 00
Manufacturers of stills (special tax)	1,160 48	1,241 67	81 24	.....
Stills or worms manufactured (special tax).....	4,020 00	2,920 00	.....	1,100 00
Stamps for distilled spirits intended for export	7,424 00	16,159 50	8,725 50	.....
Interest on tax upon spirits	64	.....	.....	64
Total	74,862,775 20	76,905,385 26	2,536,610 06	.....
TOBACCO.				
Cigars and cheroots	16,895,215 15	10,868,905 27	.....	6,526,409 88
Cigarettes	929,974 73	454,400 01	.....	475,563 72
Snuff	726,022 82	448,211 58	.....	287,811 24
Tobacco, chewing and smoking	22,136,402 53	13,488,047 41	.....	8,648,355 12
Stamps for tobacco, snuff, and cigars intended for export (s)	876 00	.....	.....	876 00
Dealers in leaf tobacco (special tax)	54,535 12	48,595 82	.....	5,939 30
Dealers in manufactured tobacco (spe- cial tax)	1,232,812 93	1,186,786 20	.....	97,026 73
Manufacturers of tobacco (special tax) ..	5,697 88	5,117 49	.....	580 39
Manufacturers of cigars (special tax)...	96,899 00	97,962 19	1,063 19	.....
Peddlers of tobacco (special tax).....	14,818 63	14,465 01	.....	343 62
Total	42,104,249 79	26,062,399 98	.....	16,041,849 81
FERMENTED LIQUORS.				
Ale, beer, lager-beer, and porter	16,426,050 11	17,572,722 88	1,147,672 77	.....
Brewers (special tax)	184,885 49	187,968 82	3,103 33	.....
Dealers in malt liquors (special tax)	289,680 21	828,242 41	538,562 20	.....
Total	16,900,615 81	18,684,954 11	1,184,338 30	.....
MISCELLANEOUS.				
Collections not otherwise provided for..	10,872,900 49	248,156 36	.....	10,625,744 13
Penalties	305,803 57	289,144 12	.....	16,659 45
Total	11,178,704 06	537,300 48	.....	10,642,403 58
Aggregate receipts	144,553,344 86	121,500,089 83	.....	22,963,305 03

a Tax repealed August 2, 1882.

WITHDRAWALS FOR CONSUMPTION DURING LAST TWO FISCAL YEARS.

The quantities of distilled spirits, fermented liquors, manufactured tobacco, snuff, cigars, and cigarettes on which tax was paid during the same periods are as follows:

Products taxed.	Fiscal years ended June 30—		Increase.	Decrease.
	1883.	1884.		
Number of gallons of spirits distilled from fruit	1,253,278	1,137,056	.....	116,222
Number of gallons of spirits distilled from grain, molasses, and other materials.....	75,508,785	78,479,345	2,971,060	.....
Number of cigars	3,227,888,992	3,455,619,017	227,730,025	.....
Number of cigarettes	640,021,653	908,090,723	268,069,070	.....
Number of pounds of snuff	5,284,372	5,602,645	318,273	.....
Number of pounds of tobacco	165,077,186	168,593,419	3,516,233	.....
Number of barrels of fermented liquors.....	17,757,892	18,998,619	1,240,727	.....

NOTE.—Many detailed tabular statements are omitted for want of space, but they may be found in the bound volumes of the Commissioner's report.

STATEMENT SHOWING the AGGREGATE RECEIPTS from INTERNAL REVENUE by STATES and TERRITORIES during the fiscal year ended June 30 1884.

States and Territories.	Aggregate receipts.	States and Territories.	Aggregate receipts.
Alabama.....	\$68,898 88	New Jersey.....	\$3,477,222 72
Arizona (a).....	2,714 91	New Mexico.....	69,129 87
Arkansas.....	91,000 87	New York.....	12,790,364 19
California.....	2,384,765 96	North Carolina.....	1,709,908 74
Colorado.....	195,909 60	Ohio.....	12,530,264 86
Connecticut.....	428,370 82	Oregon.....	128,275 08
Idaho (b).....	9,064 22	Pennsylvania.....	7,688,790 02
Delaware.....	210,327 24	Rhode Island.....	130,468 11
Florida.....	178,542 09	South Carolina.....	62,898 95
Georgia.....	379,741 84	Tennessee.....	1,249,973 39
Idaho (c).....	2,084 11	Texas.....	210,149 02
Illinois.....	23,520,484 80	Utah (e).....	4,569 49
Indiana.....	5,618,512 22	Vermont.....	30,904 88
Iowa.....	2,757,416 63	Virginia.....	8,232,739 10
Kansas.....	167,361 87	Washington (f).....	6,069 79
Kentucky.....	12,582,172 16	West Virginia.....	500,238 29
Louisiana.....	540,184 89	Wisconsin.....	2,008,755 82
Maine.....	56,599 19	Wyoming (g).....	1,202 06
Maryland.....	2,146,491 15	Total by States and Territories.....	121,368,639 05
Massachusetts.....	2,396,590 05	Back taxes under repealed laws that cannot be apportioned among the several States and Territories.....	\$31,419 79
Michigan.....	1,412,280 97	Aggregate receipts.....	121,500,058 89
Minnesota.....	493,093 05		
Mississippi.....	50,440 52		
Missouri.....	6,472,006 51		
Montana.....	125,340 62		
Nebraska.....	1,615,616 42		
Nevada (d).....	8,827 26		
New Hampshire.....	390,136 72		

(a) Consolidated with New Mexico, September 5, 1882.

(b) Consolidated with Nebraska, August 20, 1882.

(c) Consolidated with Montana, August 20, 1882.

(d) Consolidated with the fourth district of California, October 1, 1882.

(e) Consolidated with Montana, August 20, 1882.

(f) Consolidated with Oregon, September 1, 1882.

(g) Consolidated with Colorado, August 15, 1882.

RECEIPTS FOR THE FIRST THREE MONTHS OF PRESENT FISCAL YEAR.

The following table shows the receipts from the several objects of taxation for the first quarter of the fiscal years 1884 and 1885. A comparison of the receipts for the two periods is also given:

Objects of taxation.	Amount of tax paid during first three months of fiscal year--		Increase.	Decrease.
	1884.	1885.		
SPIRITS.				
Spirits distilled from apples, peaches, or grapes	\$202,617 88	\$194,479 32	.....	\$8,138 56
Spirits distilled from materials other than apples, peaches, or grapes	17,256,430 98	15,838,331 00	.....	1,418,099 98
Wine made in imitation of champagne, &c. ....	.....	.....	.....	.....
Rectifiers (special tax)	6,969 57	8,017 83	.....	978 26
Dealers, retail liquor (special tax)	281,034 07	278,519 28	.....	2,514 79
Dealers, wholesale liquor (special tax)	24,481 85	15,404 20	.....	9,077 65
Manufacturers of stills, and stills and worms manufactured (special tax)	1,325 83	1,064 17	.....	261 66
Stamps for distilled spirits intended for export	1,274 60	6,264 50	\$5,000 90	.....
Total	17,779,154 96	16,485,180 42	.....	1,293,974 56

Objects of taxation.	Amount of tax paid during first three months of fiscal year—		Increase.	Decrease.
	1884.	1885.		
TOBACCO.				
Cigars and cheroots.....	\$2,740,238 21	\$2,785,639 06	\$45,400 85	.....
Cigarettes.....	110,328 21	130,165 65	19,837 44	.....
Manufacturers of cigars (special tax).....	3,833 72	4,816 31	982 59	.....
Snuff of all descriptions.....	111,008 31	128,255 42	17,247 11	.....
Tobacco, manufactured, of all descriptions.	8,402,147 05	8,524,656 34	122,509 29	.....
Dealers in leaf tobacco, not over 25,000 pounds (special tax).....	497 65	427 92	.....	\$69 73
Dealers in leaf tobacco (special tax).....	1,821 17	1,473 18	.....	347 99
Retail dealers in leaf tobacco (special tax).	41 67	.....	.....	41 67
Dealers in manufactured tobacco (special tax).....	85,699 40	91,407 71	5,708 31	.....
Manufacturers of tobacco (special tax).....	204 00	252 00	48 00	.....
Peddlers of tobacco (special tax).....	1,441 55	1,398 00	.....	43 55
Total.....	6,457,260 94	6,668,491 59	211,230 65	.....
FERMENTED LIQUORS.				
Fermented liquors, tax of \$1 per barrel on..	5,216,935 03	5,464,914 00	247,979 57	.....
Brewers (special tax).....	8,438 38	4,289 61	851 28	.....
Dealers in malt liquors (special tax).....	34,232 17	30,715 27	.....	3,516 90
Total.....	5,254,605 58	5,490,919 48	245,313 90	.....
MISCELLANEOUS.				
Penalties.....	68,580 53	39,089 74	.....	29,540 79
Collections not otherwise herein provided for.....	118,814 47	2,665 60	.....	116,148 87
Total.....	187,395 00	41,705 34	.....	145,689 66
Aggregate receipts.....	29,672,416 50	28,645,296 83	.....	1,027,119 67

COST OF COLLECTION.

The cost of collection for the past fiscal year, distributed among the different items of appropriation, was approximately as follows:

For salaries and expenses of collectors, including pay of deputy collectors, clerks, &c.....	\$1,854,982 10
For salaries and expenses of revenue agents, surveyors of distilleries, gaugers, storekeepers, and miscellaneous expenses.....	*2,438,000 00
For stamps, paper, and dies.....	454,311 69
For expenses of detecting and punishing violations of internal-revenue laws.....	56,736 57
For salaries of officers, clerks, and employes in the office of Commissioner of Internal Revenue.....	296,421 48
Total.....	5,100,451 84

As compared with a total cost of collection for the year 1883 of \$5,105,957.09.

The total expenses (including the expenses of this office) will be found, on final adjustment, to be a little less than 4½ per cent. of the amount collected. The diminution of gross receipts could not proportionately affect the cost of collection, as nearly the same force had to be retained.

Owing to the increased number of distilleries in operation during the past year and the largely increased amount of spirits withdrawn from warehouse upon payment of tax and for export, all of which required

* This item includes \$58,000 for accounts of storekeepers and gaugers for last half of June, 1884, that were not paid owing to the appropriation being exhausted, and for which a deficiency appropriation will be needed.

to be gauged, the appropriation for payment of salaries of storekeepers and for fees of gaugers was insufficient, and early in May this office estimated that \$150,000 more would be needed for this purpose to meet actual expenses accruing during the fiscal year.

This estimate was based upon the records of this office as to the number of these officers on duty and a careful comparison with expenses of previous months, and an appropriation of the above-named sum was asked for.

In the act of July 7, 1884, making appropriation for deficiencies, \$80,000 only was appropriated for the above purpose, which was so much less than what was actually needed that most of these officers could be paid only up to the middle of June.

Accounts from over 1,100 of these officers for the last half of the month of June, 1884, are now on file unpaid, amounting to \$54,600, and it is known that there are some others yet to be filed, so that at least \$58,000 will need to be appropriated for this deficiency, and as so many persons are affected who are in need of this money justly earned, I would ask that the matter be presented to Congress for appropriation at the earliest practicable moment.

GENERAL CONDITION OF THE SERVICE.

It gives me pleasure to report that the general condition of the service is good, and I am very grateful to the officers of internal revenue throughout the country for their zeal and efficiency.

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TOBACCO.

The internal-revenue taxes collected from tobacco during the fiscal year ended June 30, 1884, aggregated \$26,062,399.98. This amount includes taxes imposed on domestic and imported manufactured tobacco, snuff, cigars, and cigarettes, and all special taxes paid by manufacturers and dealers in tobacco.

The collections from the same sources made during the fiscal year ended June 30, 1883, were \$42,104,249.79, and during the fiscal ended June 30, 1882, were \$47,391,988.91.

The collections made during the last fiscal year were nearly all under the rates of tax prescribed by the act of March 3, 1883. Those made during the fiscal year ended June 30, 1883, were partly under those rates of tax and partly under the rates of tax prescribed by previous acts. Those made during the fiscal year ended June 30, 1882, were under the rates of tax in force prior to the time when the act of March 3, 1883, took effect.

It will be observed, by comparing the receipts for the last fiscal year with those for the fiscal year immediately preceding it, that the decrease of revenue from tobacco was \$16,041,849.81, and by comparing those receipts with the receipts for the fiscal year ended June 30, 1882, that the decrease was \$21,329,588.93. This last comparison more nearly shows the effect of the reduction of the tax on tobacco under the act of March 3, 1883. For the collections of those two fiscal years were made under the different rates of tax.

But this comparison is not complete, owing to the fact that the production of tobacco, snuff, and cigars for the last fiscal year shows a

large increase over the production for the fiscal year ended June 30, 1882, as will be more clearly seen from the following comparative statements:

Year.	Pounds tobacco and snuff.	Number cigars and cigarettes.
1884.....	184, 833, 667	4, 451, 643 225
1883.....	172, 153, 816	3, 662, 973, 076
Increase	12, 679, 851	788, 670, 149

RECEIPTS FROM TOBACCO AND SNUFF.

Manufactured tobacco at 8 cents per pound.....	\$13, 486, 899 61
Manufactured tobacco at 16 cents per pound	1, 147 80
Snuff at 8 cents per pound.....	448, 211 58
Total for year ended June 30, 1884	13, 936, 258 99
Total for year ended June 30, 1883	22, 872, 425 35
Decrease in collections on tobacco and snuff	8, 936, 166 36

Of this decrease \$8,648,355.12 was on chewing and smoking tobacco, and \$287,811.24 on snuff.

RECEIPTS FROM CIGARS AND CIGARETTES.

Cigars taxed at \$3 per thousand	\$10, 364, 908 83
Cigars taxed at \$6 per thousand	3, 896 44
Cigarettes taxed at 50 cents per thousand.....	453, 972 57
Cigarettes taxed at \$1.75 per thousand.....	43
Cigarettes taxed at \$3 per thousand	436 01
Total for year ended June 30, 1884	10, 823, 214 28
Total for year ended June 30, 1883.....	17, 825, 189 88
Decrease in collections from cigars and cigarettes	7, 001, 975 60

Of this decrease \$6,526,409.88 was on cigars, and \$475,565.72 on cigarettes.

OTHER COLLECTIONS.

Dealers in manufactured tobacco, at \$5	\$923 77
Dealers in manufactured tobacco, at \$2.40	1, 135, 862 43
Total for fiscal year ended June 30, 1884	1, 136, 786 20
Total for fiscal year ended June 30, 1883	1, 233, 812 93
Decrease in collections from dealers in manufactured tobacco ..	97, 026 73
Manufacturers of tobacco, special tax, at \$10.....	15 00
Manufacturers of tobacco, special tax, at \$6	5, 102 49
Total collections for year ended June 30, 1884	5, 117 49
Total collections for year ended June 30, 1883	5, 697 88
Decrease special taxes, manufacturers of tobacco	580 39
Manufacturers of cigars, special tax, at \$10	20 00
Manufacturers of cigars, special tax, at \$6	97, 942 19
Total for fiscal year ended June 30, 1884	97, 962 19
Total for fiscal year ended June 30, 1883	96, 899 00
Increase special taxes, manufacturers of cigars	1, 063 19

Peddlers of tobacco, special taxes, 1884	\$14,465 01
Peddlers of tobacco, special taxes, 1883	14,813 63
	<hr/>
Decrease during fiscal year ended June 30, 1884	348 62
	<hr/>
Leaf dealers, year ended June 30, 1884	48,595 82
Leaf dealers, year ended June 30, 1883	54,535 12
	<hr/>
Decrease special taxes, leaf dealers	5,939 30

No export stamps were sold during fiscal year ended June 30, 1884; during previous year sales were \$876.

PRODUCTION OF MANUFACTURED TOBACCO, CIGARS, ETC.

The production of tobacco, snuff, cigars, and cigarettes for the fiscal year ended June 30, 1884, as shown from the several quantities removed for consumption on payment of tax, together with the quantities removed in bond for export, is as follows:

TOBACCO AND SNUFF.

	Pounds.
Tobacco taxed at 16 cents per pound	7,174
Tobacco taxed at 8 cents per pound	168,586,245
Snuff taxed at 8 cents per pound	5,602,645
	<hr/>
Total quantity removed for consumption	174,196,064
Tobacco and snuff removed for exportation	10,637,603
	<hr/>
Total apparent production	184,833,667
Total apparent production year ended June 30, 1883	181,313,313
	<hr/>
Total increase of production	3,520,354

This entire increase, together with the excess of the quantity exported in 1883 over that in 1884, being 314,152 pounds, was put on the market for consumption.

CIGARS AND CIGARETTES.

	Number.
Cigars and cheroots taxed at \$3 per thousand	3,454,969,610
Cigars and cheroots taxed at \$6 per thousand	649,407
Cigarettes taxed at 50 cents per thousand	907,945,140
Cigarettes taxed at \$1.75 per thousand	246
Cigarettes taxed at \$3 per thousand	145,337
	<hr/>
Total number removed for consumption	4,363,709,740
Cigars removed in bond for export	1,690,000
Cigarettes removed in bond for export	86,243,485
	<hr/>
Total product for fiscal year 1884	4,451,643,225
Total product for fiscal year 1883	3,947,572,080
	<hr/>
Total increase of production	504,071,145

Of this increase 495,799,095 were removed for consumption, and 8,272,250 were exported.

SPECIAL TAX COLLECTIONS.

The following statement shows the number of persons and firms who paid special taxes during the fiscal year ended June 30, 1884, as manufacturers, dealers, and peddlers of tobacco, snuff, and cigars, and leaf dealers:

Manufacturers of tobacco, including snuff.....	852
Manufacturers of cigars, including cigarettes	16,326
Dealers in manufactured tobacco	473,465
Dealers in leaf tobacco	4,623
Peddlers of manufactured tobacco	1,587
Total number of special tax payers	496,853

STATEMENT showing the NUMBER of CIGAR MANUFACTURERS' ACCOUNTS REPORTED, the NUMBER of CIGARS and CIGARETTES REPORTED MANUFACTURED, during the calendar year 1883, and the QUANTITY of TOBACCO USED THEREIN.

State or Territory.	Number of accounts reported.	Number of pounds of tobacco used.	Number of cigars reported manufactured.	Number of cigarettes reported manufactured.
Alabama.....	28	41,426	1,787,525	.....
Arkansas.....	21	32,174	1,520,840	.....
California.....	323	2,529,126	151,245,896	2,872,470
Colorado.....	50	55,272	2,246,653	.....
Connecticut.....	306	741,695	32,185,070	.....
Delaware.....	45	100,504	4,307,017	.....
Florida.....	172	1,052,209	45,803,025	877,690
Georgia.....	44	86,550	3,063,777	.....
Illinois.....	1,151	2,771,545	151,792,389	.....
Indiana.....	868	902,195	40,843,145	.....
Iowa.....	276	944,651	41,663,027	.....
Kansas.....	129	341,515	14,322,840	.....
Kentucky.....	227	802,903	35,115,017	.....
Louisiana.....	178	967,189	38,604,420	14,245,850
Maine.....	55	104,373	4,302,434	.....
Maryland.....	707	2,511,820	98,544,569	74,129,828
Massachusetts.....	526	1,953,091	82,711,801	700,840
Michigan.....	515	2,203,897	90,262,196	.....
Minnesota.....	121	557,101	24,107,074	.....
Mississippi.....	2	493	9,400	.....
Missouri.....	678	1,430,198	62,283,010	4,547,700
Montana.....	7	13,174	540,450	.....
Nebraska.....	120	205,961	11,385,000	.....
New Hampshire.....	37	88,824	3,004,090	.....
New Jersey.....	761	1,415,345	50,969,166	150,000
New York.....	4,080	27,645,275	1,100,767,338	583,580,000
North Carolina.....	22	101,882	1,988,170	45,261,520
Ohio.....	1,434	6,580,454	284,003,669	.....
Oregon.....	14	30,838	1,242,385	.....
Pennsylvania.....	4,102	14,642,381	657,430,573	423,900
Rhode Island.....	65	184,852	8,367,720	.....
South Carolina.....	18	26,930	1,158,176	.....
Tennessee.....	86	78,300	3,517,060	.....
Texas.....	59	108,650	4,552,000	230,620
Vermont.....	21	78,802	3,712,294	.....
Virginia.....	153	922,332	29,331,753	110,846,246
West Virginia.....	110	872,216	48,478,900	.....
Wisconsin.....	582	1,690,165	72,604,651	.....

RECAPITULATION.

Number of accounts reported on Form 144	17,894
Number of pounds of leaf tobacco used	77,225,311
Number of cigars reported manufactured	3,231,813,246
Number of cigarettes reported manufactured	843,962,340

STATEMENT of the NUMBER of TOBACCO FACTORIES in EACH STATE, the AGGREGATE QUANTITIES of LEAF TOBACCO and OTHER MATERIALS USED, and the AGGREGATE QUANTITIES of the DIFFERENT KINDS of MANUFACTURED TOBACCO PRODUCED, during the calendar year ended December 31, 1883, together with a STATEMENT of the QUANTITY of MANUFACTURED TOBACCO ON HAND at the COMMENCEMENT and at the CLOSE of the year, the QUANTITY to be ACCOUNTED FOR, the QUANTITY REMOVED IN BOND FOR EXPORT, the TOTAL SALES REPORTED, and the AMOUNT of TAXES PAID.

Leaf tobacco and other materials used in manufacturing tobacco and snuff.								
States and Territories.	Number of factories.	Leaf used.	Stems used.	Licorice used.	Sugar used.	Other mate- rials used.	Tobacco in process.	Total mate- rials used.
		Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Arkansas	7	39,013	243	4,044	18,307	130	2,098	112,519
California	9	215,189	13,145	18,554	36,779	30,016	36,000	944,000
Delaware	2	1,590,003	69,081	100	408	.....	302,100	1,912,000
Connecticut	8	83,325	765	2,405	2,057	458	1,156	1,156
Georgia	29	9,202,734	604,188	751,070	1,470,578	408,078	604,204	18,128,070
Illinois	9	50,547	1,139	1,341	1,800	.....	.....	72,289
Indiana	2	265,014	6,774	2,102	2,451	10,204	34,120	421,027
Iowa	1	52,184	830	118	1,100	.....	.....	72,007
Kansas	69	12,741,028	33,500	2,072,400	1,714,174	808,745	208,528	17,007,004
Kentucky	41	2,640,307	582	23,044	778	7,313	40,808	8,713,973
Louisiana	17	4,753,946	948,920	70,194	110,052	177,200	681,000	7,041,934
Maryland	11	524,678	18,800	77,710	67,108	87,023	104,001	682,745
Massachusetts	7	4,506,508	494,733	250,928	608,518	360,305	917,741	6,700,073
Michigan	2	5,374	.....	.....	.....	.....	.....	6,974
Minnesota	76	23,554,555	1,081,309	2,628,373	2,001,719	967,633	779,300	30,067,208
Missouri	13	24,007,968	816,649	2,406,007	2,462,764	1,432,091	1,000,000	34,231,016
New Jersey	65	15,373,721	1,541,720	1,136,200	3,150,467	814,331	878,000	31,102,507
New York	227	19,205,813	291,849	601,578	270,613	501,044	2,108,374	30,002,170
North Carolina	32	8,235,044	710,043	1,944,247	2,331,791	825,249	968,879	12,712,000
Ohio	34	3,590,700	108,510	18,031	7,325	51,000	175,000	4,004,564
Pennsylvania	1	.....	.....	.....	.....	.....	.....	9,075
South Carolina	2	9,075	.....	.....	.....	.....	.....	9,075
Texas	26	1,001,835	4,126	52,290	42,310	2,007	22,711	1,126,149
Tennessee	22	51,511,964	818,573	8,431,484	2,004,207	1,778,015	788,300	62,302,403
Virginia	4	151,714	244,800	.....	.....	.....	242	436,900
West Virginia	6	2,953,014	728,125	50,021	247,001	102,005	160,000	4,381,540
Wisconsin	957	104,254,110	7,849,251	14,904,019	15,022,516	7,844,420	8,002,501	306,191,518

STATEMENT of the NUMBER of TOBACCO FACTORIES in EACH STATE, &c.—Continued.

States and Territories.	Number of Factories.	Tobacco and snuff produced.				Tobacco on hand January 1, 1883.	Total to- be accounted for.	Unsold, January 1, 1884.	Exported.	Sold.	Stamps required.
		Plug made.	Flue-out made.	Smoking made.	Snuff made.	Total made.					
		Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Value.
Arkansas	7	87,089		2,338		84,355	115,753	28,767	666	83,740	97,338 74
California	0	228,446		40,026		277,472	605,976	351,765	3,343	350,270	31,490 28
Delaware	2	4,869		00		1,685,666	1,770,032	48,858		1,720,173	170,061 13
Connecticut							606	214	349	59	8 99
Georgia	8	60,164				00,164	98,948	57,708		41,240	3,404 18
Illinois	29	3,850,920	2,776,004	4,621,784	69,018	11,324,716	12,180,717	638,448	6,604	11,540,663	1,108,783 18
Indiana	0	40,584		14,731		00,905	73,381	13,911	263	60,767	5,694 29
Iowa	3		50,740	358,459		379,199	400,583	12,004	473	387,017	38,303 69
Kansas				10,023		45,309	60,028	20,238		31,209	3,054 18
Kentucky	00	11,802,105	1,398,719	1,094,499	7,001	13,937,375	14,850,112	918,089	4,778	13,737,249	1,259,844 26
Louisiana	41		1,733,205	272,041	48,426	2,044,632	2,314,984	138,523	307,638	1,870,831	194,979 93
Maryland	17		161,076	0,165,923	270,053	0,000,004	7,064,770	297,004		6,787,676	597,586 41
Massachusetts	11	637,690	140	10,504	49,469	598,693	600,736	4,340	11,628	594,773	62,986 51
Michigan	7	61,381	2,144,180	4,082,803		6,296,374	6,301,083	308	6,511	5,254,174	591,118 37
Minnesota	2			5,202		5,202	5,202	1,150		4,052	367 93
Missouri	78	21,452,210	868,809	4,754,339	60,844	23,616,411	23,506,810	2,187,061	138,963	26,179,696	2,502,023 37
New Jersey	13	19,028,457	2,580,387	3,207,711	3,268,147	27,034,703	27,028,929	72,914	103,667	28,869,978	2,907,585 18
New York	45	5,379,412	3,846,020	6,701,097	301,965	16,186,800	16,246,710	171,183	697,283	15,490,999	1,536,486 69
North Carolina	227	10,625,100		0,474,397	48,861	17,048,338	21,453,804	5,111,247	78,105	16,268,511	1,505,577 73
Ohio	32	5,930,095	1,551,415	2,708,864	34,393	10,334,353	10,828,700	691,580	70	10,223,116	1,091,322 47
Pennsylvania	34	2,671	42,036	1,271,633	839,700	2,175,496	2,202,829	116,050	277,806	2,898,782	314,911 40
South Carolina	1						15,494	1,943		13,551	1,504 28
Texas	3			9,675		9,675	0,216			9,210	937 68
Texas	26	749,383		25,853	32,484	807,219	1,232,400	482,202	1,610	748,678	69,806 27
Virginia	321	43,129,962		1,164,150	23,263	46,317,890	55,239,637	9,707,070	7,915,774	37,952,034	3,521,999 80
West Virginia	8	6,949		430,211		447,160	447,360	58,734		388,626	38,006 54
Wisconsin	0	10,891	337,683	4,153,868	3,248	4,996,068	5,633,116	35,965	11	4,967,144	470,728 53
Total	957	124,630,615	17,364,869	47,710,086	5,004,624	195,306,534	214,679,237	20,961,480	9,555,165	185,478,940	17,767,677 47

DISTILLED SPIRITS.

DISTILLERIES REGISTERED AND OPERATED.

The following statement shows the number of distilleries registered and operated during the fiscal year ended June 30, 1884:

States and Territories.	Grain.		Molasses.		Fruit.		Total registered.	Total operated.
	Registered.	Operated.	Registered.	Operated.	Registered.	Operated.		
Alabama.....	4	4	.....	.....	43	43	47	47
Arkansas.....	21	20	.....	.....	7	7	28	27
California.....	4	4	.....	.....	239	239	243	243
Connecticut.....	1	1	.....	.....	64	64	65	65
Delaware.....	.....	.....	.....	.....	57	57	57	57
Florida.....	.....	.....	.....	.....	.....	.....	.....	.....
Georgia.....	85	42	.....	.....	124	124	189	176
Idaho.....	1	1	.....	.....	.....	.....	1	1
Illinois.....	16	17	.....	.....	23	23	40	39
Indiana.....	16	16	.....	.....	50	48	66	64
Iowa.....	1	1	.....	.....	2	2	3	3
Kansas.....	1	1	.....	.....	2	2	4	4
Kentucky.....	335	325	.....	.....	380	380	715	695
Maryland.....	21	17	.....	.....	10	9	31	26
Massachusetts.....	1	1	5	1	10	10	17	17
Missouri.....	29	24	.....	.....	63	63	91	84
Nebraska.....	1	1	.....	.....	.....	.....	1	1
New Hampshire.....	.....	.....	1	1	2	2	3	3
New Jersey.....	1	1	.....	.....	84	82	85	83
New Mexico.....	.....	.....	.....	.....	2	2	2	2
New York.....	5	4	.....	.....	66	66	71	70
North Carolina.....	464	415	.....	.....	1,006	1,006	1,450	1,420
Oregon.....	1	1	.....	.....	8	8	4	4
Ohio.....	27	28	.....	.....	24	24	51	52
Pennsylvania.....	24	27	.....	.....	23	23	117	110
South Carolina.....	27	27	.....	.....	7	7	34	34
Tennessee.....	102	83	.....	.....	204	204	306	287
Texas.....	6	6	.....	.....	7	7	13	13
Vermont.....	.....	.....	.....	.....	6	6	6	6
Virginia.....	43	39	.....	.....	1,021	1,021	1,063	1,060
West Virginia.....	6	6	.....	.....	121	121	127	127
Wisconsin.....	7	6	.....	.....	.....	.....	7	6
Total.....	1,291	1,078	7	7	2,659	2,669	4,956	4,738

CAPACITY, ETC., OF GRAIN DISTILLERIES.

The following statement shows the number and capacity of grain distilleries in operation and of grain distilleries closed in twenty principal spirit-producing districts at the beginning of each month during the fiscal year ended June 30, 1884, and the three succeeding months of the present fiscal year.

Months.	Number of distilleries.		Capacity in use of distilleries operating.		Surveyed capacity of distilleries operating.		Surveyed capacity of distilleries closed.	
	Operating.	Closed.						
1883.			<i>Bushels.</i>	<i>Gallons.</i>	<i>Bushels.</i>	<i>Gallons.</i>	<i>Bushels.</i>	<i>Gallons.</i>
July.....	103	251	28,471	114,325	72,083	286,277	92,063	224,977
August.....	86	277	36,991	147,233	80,830	329,521	49,408	175,689
September.....	90	273	52,345	216,074	77,883	345,734	42,902	162,629
October.....	96	263	52,372	208,572	91,864	365,234	40,821	148,382
November.....	111	256	56,006	229,891	88,264	351,983	37,126	135,416
December.....	141	287	64,062	252,089	102,536	414,290	32,191	116,267
1884.								
January.....	164	209	64,741	253,492	106,798	425,504	28,353	101,866
February.....	168	202	64,224	252,128	105,599	418,461	26,573	95,540
March.....	187	194	63,779	256,817	104,681	414,955	25,176	92,375
April.....	210	175	70,364	278,706	108,562	449,842	23,837	89,379
May.....	212	134	65,085	268,968	110,404	435,746	15,864	56,083
June.....	154	162	60,361	206,057	98,075	389,061	27,520	102,508
July.....	80	206	20,307	119,797	71,189	282,197	42,092	200,956
August.....	61	268	28,974	115,874	62,638	264,414	32,113	235,032
September.....	71	281	42,996	170,556	76,092	311,856	51,212	193,999

The following statement shows the number and capacity of grain and molasses distilleries in operation at the beginning of each month during the fiscal year ended June 30, 1884, and the first three months of the present fiscal year:

Months.	Number of distilleries.		Capacity of grain distilleries.		Capacity of molasses distilleries.		Total spirit-producing capacity per day.
	Grain.	Molasses.	Grain.	Spirits.	Molasses.	Spirits.	
			Bushels.	Gallons.	Gallons.	Gallons.	Gallons.
July	535	7	43, 174	189, 143	5, 480	4, 659	179, 903
August	398	7	40, 727	158, 502	6, 267	5, 245	163, 847
September	387	7	56, 859	224, 107	8, 731	6, 818	230, 925
October	405	7	57, 420	223, 965	7, 029	5, 976	229, 941
November	490	7	65, 597	257, 994	6, 457	5, 487	263, 481
December	575	7	73, 888	289, 469	8, 423	7, 161	296, 630
January	613	7	75, 562	299, 653	8, 997	7, 307	306, 960
February	606	7	77, 695	304, 164	5, 393	5, 130	309, 344
March	671	7	82, 037	321, 963	7, 449	6, 331	328, 293
April	728	8	81, 954	305, 006	7, 300	6, 709	314, 774
May	605	8	70, 820	274, 500	6, 346	5, 394	279, 894
June	513	7	56, 923	230, 839	9, 143	7, 772	238, 616
July	382	8	38, 499	150, 617	9, 341	7, 943	158, 560
August	297	8	34, 500	135, 624	10, 023	8, 526	144, 150
September	294	8	47, 855	189, 306	8, 314	7, 434	196, 739

GRAIN AND MOLASSES DISTILLERIES IN OPERATION SEPTEMBER 1, 1880, 1881, 1882, 1883, and 1884.

COMPARATIVE STATEMENT showing the NUMBER and CAPACITY of GRAIN and MOLASSES DISTILLERIES in OPERATION on the 1st day of September in each of the years 1880 to 1884, inclusive.

Date.	Number of distilleries.		Capacity of grain distilleries.		Capacity of molasses distilleries.		Total spirit-producing capacity per day.
	Grain.	Molasses.	Grain.	Spirits.	Molasses.	Spirits.	
			Bushels.	Gallons.	Gallons.	Gallons.	Gallons.
September 1, 1880	373	6	68, 013	273, 364	8, 899	7, 664	281, 028
September 1, 1881	298	5	70, 193	273, 806	8, 673	7, 287	281, 093
September 1, 1882	198	7	57, 755	227, 973	10, 429	8, 891	236, 864
September 1, 1883	387	7	56, 859	224, 107	8, 731	6, 818	230, 925
September 1, 1884	294	8	47, 855	189, 306	8, 314	7, 434	196, 739

The total number of grain distilleries registered during the fiscal year ended June 30, 1884, was 1,291, of which number only 1,078 were operated. The numbers registered and operated in the fiscal year ended June 30, 1883, were 1,250 and 1,096, respectively, showing an increase during the last fiscal year of 41 in the number registered and a decrease of 18 in the number operated.

The increase in the number registered occurs, as was the case in the preceding fiscal year, in the class of distilleries having the smaller capacities for the production of spirits.

In the class of larger distilleries a very decided reduction occurs both in the number registered and the number operated.

During the fiscal year ended June 30, 1883, 969 of the smaller distilleries were registered, of which number 875, or 90 per cent., were operated; while of the larger distilleries, 281 were registered, and 221, or 78 per cent., were operated.

During the fiscal year ended June 30, 1884, 1,052 distilleries of the smaller class, whose daily capacities for the use of grain vary from not over 5 bushels to not over 60 bushels, were registered, and of this number 905, or 86 per cent., were operated.

Of the larger distilleries, whose daily capacities vary from not less than 60 bushels of grain to 500 bushels, and from that to near 6,000 bushels, 239 were registered, and 173, or 72 per cent., were operated.

The increase (83) in the number of small distilleries registered was not attended by a corresponding increase in the number operated, only 30 more of this class having been operated than in the previous year.

The decrease (42) in the number of large distilleries registered was accompanied by a still larger diminution (48) in the number operated.

The quantity of grain used in the production of spirits during the past fiscal year, 18,927,982 bushels, is an increase of 283,195 bushels above the amount used in the preceding fiscal year (18,644,787 bushels), but is 5,137,897 bushels less than the average (24,065,879 bushels) for the last five years.

A corresponding increase appears in the number of gallons of spirits produced from grain during the year, 73,724,581 gallons, which is an excess of 1,489,406 gallons over the product (72,235,175 gallons) for the year ended June 30, 1883.

The yield of spirits from each bushel of grain varies but little from that of the preceding year, but still increases slightly, being 3.895 gallons. The yield for the two preceding years was 3.874 for 1883, and 3.792 for the year 1882.

The quantity of molasses used for the production of rum during the fiscal year is 2,259,536 gallons, a decrease of 113,570 gallons from the quantity used in the year previous (2,373,106 gallons), and a decrease of 255,452 gallons from the average quantity (2,514,988 gallons) used during the last five years.

The quantity of rum distilled from molasses is 1,711,158 gallons, a decrease of 90,802 gallons from the product of the year 1883, and a decrease of 204,674 gallons from the average product of the last five years

DECREASE OF SPIRITS IN WAREHOUSE.

From the following comparative statement of spirits of the different kinds known to the trade, remaining in warehouse at the close of the fiscal years 1883 and 1884, it will be seen that while there was an increase in the stock of alcohol, gin, high wines, and pure spirits held in bond June 30, 1884, over the quantity so held June 30, 1883, of 753,252 gallons, there was an actual decrease in other grades of spirits (principally in bourbon and rye whiskies) of 17,750,694 gallons, or a net decrease of 16,997,442 gallons. Of the spirits held in bond June 30, 1884, nearly two-thirds was bourbon whisky:

Kinds of spirits.	In warehouse June 30, 1883.	In warehouse June 30, 1884.	Increase over 1883.	Decrease from 1883.
	<i>Gallons.</i>	<i>Gallons.</i>		
Bourbon whisky	55,837,112	41,177,059	.....	14,660,053
Rye whisky	17,897,295	15,005,057	.....	2,892,238
Alcohol	229,523	393,409	163,886	.....
Rum	512,892	487,236	.....	25,656
Gin	72,702	93,367	20,665	.....
High wines	207,969	411,071	203,102	.....
Pure, or cologne spirits	1,062,401	1,428,000	365,599	.....
Miscellaneous	4,680,099	4,507,852	.....	172,247
Total	80,499,993	63,502,551	753,252	17,750,694
Less increase				753,252
Net decrease				16,997,442

INCREASED PRODUCTION OF SPIRITS.

The quantity of spirits (75,435,739 gallons) produced and deposited in distillery warehouses during the fiscal year ended June 30, 1884, is greater than the production (74,013,308 gallons) of the year 1883 by 1,422,431 gallons.

This increase is distributed among the different kinds known to the trade as follows:

Increase in production of—

	Gallons.
Bourbon whisky.....	234,587
Rye whisky	305,304
Alcohol.....	1,666,523
Gin	95,956
Pure, neutral, or cologne spirits.....	243,427
Miscellaneous.....	923,699
Total increase	3,469,496

Decrease in production of—

	Gallons.
Rum	90,802
High wines	1,956,263
Total	2,047,065
Net increase	1,422,431
• • • • •	•

INCREASED TAX-PAID WITHDRAWALS OF SPIRITS.

The quantity of spirits (78,342,474 gallons) withdrawn from distillery warehouses during the fiscal year ended June 30, 1884, is greater than the quantity withdrawn (75,441,087 gallons) during the year 1883, by 2,901,387 gallons.

This increase is distributed among the different kinds known to the trade as follows:

	Gallons.
Increase in withdrawal of—	
Bourbon whisky.....	3,718,356
Rye whisky	905,515
Alcohol	438,833
Gin.....	57,780
Miscellaneous	341,844
Total increase.....	5,462,328

	Gallons.
Decrease in withdrawals of—	
Rum.....	72,796
High wines.....	2,274,808
Pure, neutral, or cologne spirits.....	213,337
Total	2,560,941
Net increase	2,901,387
• • • • •	•

DISTILLED SPIRITS ALLOWED FOR LOSS BY LEAKAGE OR EVAPORATION IN WAREHOUSES.

The quantity of spirits, 3,858,494 gallons, reported in the preceding table as lost by leakage or evaporation in warehouse, is that portion of the actual leakage in warehouse from packages withdrawn during the year, which has been allowed in accordance with the provisions of section 17 of the act of May 28, 1880.

The following statement shows the quantity of spirits, as per *original* gauge, withdrawn from warehouse for all purposes during the stated period, and the amount and percentage of leakage allowed thereon under the provisions of the act named.

Year.	Total quantity withdrawn.	Leakage allowed.	Percentage of withdrawals.
	<i>Gallons.</i>	<i>Gallons.</i>	
1880	78, 199, 283	75, 834	.096
1881	84, 335, 900	811, 466	.962
1882	80, 281, 611	1, 231, 336	1.538
1883	83, 291, 190	2, 291, 013	2.750
1884	92, 022, 593	3, 858, 494	4.183

The maximum allowance fixed by the act above named, on account of leakage in warehouse during the full bonded period of three years, is seven and one-half gallons to each package of not less than forty wine gallons' capacity, or 18.75 per cent. of that capacity. On this basis the average bonded period for all classes of spirits withdrawn from warehouse during the year 1884 would represent about nine months, or one-fourth of the full bonded period authorized by law.

A large percentage of such withdrawals, however, are made up of high-proof spirits, such as alcohol and high wines, which are held in bond only for a limited period of time, and on which, in many cases, no leakage whatever is claimed. On the other hand spirits, such as bourbon and rye whiskies, are in a majority of cases held in warehouse for the full bonded period, and the large increase in the amount of leakage allowed during the years 1883 and 1884 over previous years is due to the proportionally large increased withdrawals of this latter class of spirits.

DISTILLED SPIRITS LOST BY CASUALTY DURING THE YEAR.

The quantity of spirits, 410,588 gallons, reported in the table on page 85 as lost by casualty in distillery warehouses during the year ended June 30, 1884, is 225,818 gallons more than the quantity so lost during the next preceding year, or one gallon out of every three hundred and seventy-nine gallons held on deposit in such warehouses during the year.

It also appears that the greater part, 330,673 gallons out of 410,588 gallons, was lost through one casualty by fire, which occurred at a warehouse in the twenty-second district of Pennsylvania.

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SPIRITS WITHDRAWN FROM WAREHOUSES FOR SCIENTIFIC PURPOSES
AND FOR THE USE OF THE UNITED STATES.

The quantity of alcohol withdrawn free of tax from distillery warehouses for the use of colleges and other institutions of learning in the preservation of specimens of natural history in their several museums, and for use in their chemical laboratories, and of spirits of various kinds for the use of the United States, amounted during the year to 20,837 gallons, or 7,888 gallons less than the quantity withdrawn during the previous year.

TRANSFERS OF SPIRITS FROM DISTILLERY WAREHOUSES TO MANUFACTURING WAREHOUSES.

The quantity of spirits transferred to manufacturing warehouses during the year was 214,050 gallons, or 10,112 gallons more than the quantity withdrawn for transfer to such warehouses during the fiscal year 1883. The increase occurred mainly as to pure spirits.

STATEMENT of the AGGREGATE QUANTITY, in TAXABLE GALLONS, of DISTILLED SPIRITS of the DIFFERENT KINDS KNOWN to the TRADE, PRODUCED, WITHDRAWN, and REMAINING in WAREHOUSE in the UNITED STATES, for the fiscal year ended June 30, 1884.

	Bourbon whisky.	Rye whisky.	Alcohol.	Rum.	Gin.
DR.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.
1. Remaining in warehouse July 1, 1883.....	55,837,112	17,897,295	229,523	512,892	72,702
2. Produced and bonded during the year	8,896,832	5,089,958	12,385,229	1,711,158	641,724
Total.....	64,733,944	22,987,253	12,614,752	2,224,050	714,426
CR.					
3. { Withdrawn on payment of tax during the year	17,492,895	5,973,855	8,000,004	1,054,363	618,619
4. { Lost by leakage or evaporation in ware- house.....	2,649,758	962,648	1,925	17,094	1,105
5. Withdrawn for export during the year....	3,401,410	710,858	4,100,791	664,942	1,335
6. Withdrawn for scientific purposes	2,318	161	14,171	.....	.....
7. Withdrawn for transfer to manufacturing warehouse	1,640	1,813	49,066	415	.....
8. Lost by casualty, &c., during the year	8,864	332,861	55,386	.....	.....
9. Remaining in warehouse June 30, 1884.....	41,177,059	15,005,057	393,409	487,236	93,367
Total.....	64,733,944	22,987,253	12,614,752	2,224,050	714,426

	High wines.	Pure, neutral, or cologne spirits.	Miscella- neous.	Total number of gallons.
DR.	Gallons.	Gallons.	Gallons.	Gallons.
1. Remaining in warehouse July 1, 1883.....	207,969	1,002,401	4,680,099	80,499,993
2. Produced and bonded during the year	6,745,688	28,538,680	11,426,470	75,435,739
Total.....	6,953,657	29,601,081	16,106,569	155,935,732
CR.				
3. { Withdrawn on payment of tax during the year	3,528,654	27,395,849	11,278,235	78,842,474
4. { Lost by leakage or evaporation in ware- house.....	7,409	17,806	200,749	3,858,494
5. Withdrawn for export during the year....	6,485	595,342	105,575	9,586,738
6. Withdrawn for scientific purposes.....	.....	4,187	.....	20,837
7. Withdrawn for transfer to manufacturing warehouse.....	.....	159,897	1,219	214,050
8. Lost by casualty, &c., during the year	38	.....	13,439	410,568
9. Remaining in warehouse June 30, 1884.....	411,071	1,428,000	4,507,352	63,502,551
Total.....	6,953,657	29,601,081	16,106,569	155,935,732

SUMMARY OF OPERATIONS AT DISTILLERY WAREHOUSES FOR THE YEAR ENDED JUNE 30, 1884.

The following table shows the quantity of distilled spirits in taxable gallons, at 90 cents per gallon tax, placed in distillery warehouses during the fiscal year ended June 30, 1884, the quantity withdrawn therefrom during the year, and the quantity remaining therein at the beginning and close of the year:

Distilled spirits—	Quantity.	Total.
Actually remaining in warehouse July 1, 1883	80,499,993	
Not actually in warehouse, claimed to have been lost by casualty	449,606	
Withdrawn for exportation, proofs of landing not received	6,235,474	
Withdrawn for transfer to manufacturing warehouse, not yet received at warehouse	41,697	
		87,226,770
Produced from July 1, 1883, to June 30, 1884		75,435,739
Total		162,662,509
Withdrawn tax-paid (including deficiencies on export bonds and casualties disallowed)	78,866,625	
Exported, proofs of landing received	5,633,964	
Allowed for loss by casualty	549,789	
Withdrawn for scientific purposes and for the use of the United States ..	20,837	
Allowed for loss by leakage or evaporation in warehouse	3,858,594	
Allowed for loss by leakage in transportation for export, &c	36,858	
Withdrawn for transfer to, and received at, manufacturing warehouse...	170,238	
		88,676,905
Withdrawn for exportation, proofs of landing not received	10,148,599	
Withdrawn for transfer to manufacturing warehouse, not received at warehouse	85,137	
Not actually in warehouse, claimed to have been lost by casualty	249,317	
Actually remaining in warehouse June 30, 1884	63,502,551	
		73,985,604
Total		162,662,509

STOCK ON HAND, PRODUCTION, AND MOVEMENT OF SPIRITS FOR FIVE YEARS.

The following table shows the stock on hand, production, and movement of spirits for the fiscal years 1880, 1881, 1882, 1883, and 1884:

	1880.	1881.	1882.	1883.	1884.
	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.
Quantity of spirits actually in warehouses beginning of fiscal year	19,212,470	31,363,869	64,648,111	89,962,645	80,499,993
Quantity of spirits produced during fiscal year	90,355,270	117,728,150	105,853,161	74,013,308	75,435,739
Total	109,567,740	149,092,019	170,501,272	163,975,953	155,935,732
Quantity of spirits withdrawn tax-paid, during fiscal year	61,100,362	67,372,575	70,730,180	75,441,087	78,842,474
Quantity of spirits withdrawn for exportation during fiscal year	16,765,666	15,921,482	8,002,725	5,826,427	9,586,738
Quantity of spirits withdrawn for scientific purposes, for use of United States, for transfer to manufacturing warehouse, destroyed by fire, allowed for loss by leakage in warehouses, &c	337,843	1,149,851	1,715,722	2,708,446	4,503,969
Total	78,203,871	84,443,908	80,538,627	83,475,960	92,433,181
Quantity of spirits remaining in warehouses at end of fiscal year	31,363,869	64,648,111	89,962,645	80,499,993	63,502,551

Scientific	20,837
Transfers	214,050
Casualties	410,588
Leakage	3,858,494
Total	4,503,969

SPIRITS REMAINING IN WAREHOUSES AT THE CLOSE OF THE YEAR.

The following table shows the quantity remaining in distillery warehouses at the close of each of the sixteen fiscal years during which spirits have been stored in such warehouses :

Date.	Quantity.	Date.	Quantity.
	Gallons.		Gallons.
Remaining June 30, 1869	10,635,166	Remaining June 30, 1877	13,091,773
Remaining June 30, 1870	11,671,288	Remaining June 30, 1878	14,048,773
Remaining June 30, 1871	5,744,360	Remaining June 30, 1879	19,212,470
Remaining June 30, 1872	10,103,303	Remaining June 30, 1880	21,363,609
Remaining June 30, 1873	14,650,148	Remaining June 30, 1881	64,648,111
Remaining June 30, 1874	13,575,224	Remaining June 30, 1882	89,963,645
Remaining June 30, 1875	13,179,596	Remaining June 30, 1883	80,400,008
Remaining June 30, 1876	12,595,850	Remaining June 30, 1884	63,502,651

COMPARATIVE STATEMENT OF SPIRITS IN DISTILLERY WAREHOUSES
NOVEMBER 1, 1881, NOVEMBER 1, 1882, OCTOBER 1, 1883, AND OCTOBER 1, 1884.

Following is a statement of the quantities of spirits remaining in distillery warehouses November 1, 1881, November 1, 1882, October 1, 1883, and October 1, 1884 :

States.	Gallons.			
	1881.	1882.	1883.	1884.
Alabama	6,942	1,340	2,194	2,409
Arkansas	14,253	8,134	20,326	40,422
California	222,882	302,918	300,148	124,184
Colorado	2,368			
Connecticut	25,956	15,894	6,898	13,543
Georgia	22,576	12,020	62,254	30,220
Idaho	6,868	6,894		
Illinois	1,905,820	2,194,383	1,174,012	1,585,537
Indiana	1,879,907	1,604,021	1,235,680	968,910
Iowa	4,756	34,475	19,638	81,893
Kansas	28,319	34,067	21,638	11,020
Kentucky	44,644,660	50,600,469	52,218,174	33,351,017
Maryland	8,723,706	4,021,007	3,349,796	2,647,183
Massachusetts	446,254	471,317	493,205	542,832
Montana			181	2,798
Missouri	206,612	162,457	195,316	262,349
Nebraska	198,284	196,268	164,322	130,942
New Hampshire	29,712	31,480	32,407	31,232
New Jersey	167,634	191,978	143,126	187,170
New York	281,025	345,066	242,470	302,127
North Carolina	187,183	88,409	154,151	146,862
Ohio	3,247,668	3,068,969	2,756,831	*2,008,166
Oregon			2,023	8,383
Pennsylvania	7,683,351	9,464,256	8,056,339	6,723,169
South Carolina	5,677	2,587	12,532	17,362
Tennessee	1,438,365	1,302,403	1,527,374	1,408,658
Texas	8,493	6,434	6,340	7,039
Virginia	179,107	191,039	224,130	248,951
West Virginia	864,913	861,881	837,485	867,972
Wisconsin	51,095	129,730	163,862	167,568
Total	67,442,186	84,628,331	73,406,361	58,611,394

* Estimated as to sixth district of Ohio.

DISTILLED SPIRITS IN THE UNITED STATES OCTOBER 1, 1884.

The quantity of distilled spirits in the United States, except what may be in customs bonded warehouses, on the 1st day of October,

1884, was nearly 97,000,000 gallons, this quantity being distributed as follows :

	Gallons.
In distillery and special bonded warehouses.....	54, 136, 115
In hands of wholesale liquor dealers.....	15, 664, 206
In hands of retail liquor dealers.....	27, 010, 200
Total.....	96, 810, 521

In making the above computation the average stock of each retail liquor dealer in the United States is estimated at 150 gallons.

OPERATIONS AT SPECIAL BONDED WAREHOUSES FOR STORAGE OF GRAPE BRANDY.

The following statement shows the quantity of grape brandy placed in special bonded warehouses, withdrawn therefrom, and remaining therein at the beginning and close of the fiscal year ended June 30, 1884, in taxable gallons :

	Gallons.	Gallons.	Gallons.
Remaining in warehouse July 1, 1883:			
First district of California	241, 289		
Fourth district of California.....	200, 290		
		441, 579	
Removed for exportation and unaccounted for July 1, 1883:			
Fourth district of California.....		163	
		441, 742	
Produced and bonded during the year:			
Produced and warehoused in first district.....	99, 312		
Produced in fourth and warehoused in first district.....	24, 978		
		124, 290	
Produced and warehoused in fourth district.....		76, 442	
		200, 732	
Transferred from warehouses in fourth district to warehouses in first district		76, 362	
		718, 836	
Exported and accounted for during the year:			
First district of California.....		88	
Fourth district of California.....		244	
		332	
Removed to manufacturing warehouse:			
First district of California.....		1, 287	
Removed tax-paid during the year:			
First district of California	167, 317		
Fourth district of California.....	75, 043		
		242, 360	
Loss by regauge act of May 28, 1880:			
First district of California.....	9, 364		
Fourth district of California.....	6, 482		
		15, 846	
Withdrawn by seizure:			
First district of California.....		39	
		258, 245	
Transferred from warehouses in fourth district to warehouses in first district		76, 362	
Removed for exportation and remaining unaccounted for June 30, 1884:			
First district of California.....		268	
Remaining in warehouse June 30, 1884:			
First district of California.....	263, 578		
Fourth district of California.....	118, 764		
		382, 342	
		382, 610	
		718, 836	

Of the 200,732 gallons grape brandy bonded during the last fiscal year 99,312 gallons were produced in the first district and 101,420 gallons were produced in the fourth district of California.

The total product was 23,245 gallons less than in the previous year, while the amount removed tax-paid was 46,307 gallons larger than in 1883. The loss resulting from regauge under the act of May 28, 1880, was 6,506 gallons more than in the previous year.

Of the quantity in warehouse June 30, 1884, 263,578 gallons were in the following warehouses in the first district of California:

	Gallons.
No. 1. Bode & Searle, at San Francisco.....	152, 448
No. 2. Juan Bernard, at Los Angeles.....	48, 047
No. 3. George C. Carlon, at Stockton.....	21, 472
No. 4. James M. Tierman, at San Gabriel Station.....	41, 571

And 118,764 gallons were in the following-named warehouses in the fourth district of California:

	Gallons.
No. 1. E. B. Carroll, at Sacramento.....	44, 320
No. 2. John F. Boyce, at Santa Rosa.....	17, 221
No. 3. A. B. Purfurst, at Santa Helena.....	37, 795
No. 4. John Tivnen, at Sonoma.....	19, 428

EXPORTATION OF MANUFACTURED TOBACCO AND SNUFF IN BOND.

The subjoined table shows as removed and unaccounted for July 1, 1883, and July 1, 1884, the quantity, in pounds, of manufactured tobacco and snuff which had been removed for exportation in bond, and concerning which the proof of exportation required by law had not been furnished prior to the dates named:

	Pounds.	Pounds.
1. Removed and unaccounted for July 1, 1883:		
Bonds in the hands of U. S. district attorneys.....	17, 094	
Tobacco at 16 cents removed under exportation bonds..	91, 922	
Tobacco at 16 cents removed under transportation bonds	2, 484	
Tobacco at 8 cents removed under exportation bonds...	854, 620½	
		966, 120½
2. Removed during the year ended June 30, 1884:		
Tobacco at 8 cents tax	10, 637, 603	
		10, 637, 603
		11, 603, 723½
3. Exported and accounted for during the year:		
Bonds in the hands of U. S. district attorneys.....	17, 094	
Tobacco at 16 cents tax under exportation bonds.....	79, 888½	
Tobacco at 16 cents tax under transportation bonds....	2, 484	
Tobacco at 8 cents tax under exportation bonds.....	10, 744, 043	
Tobacco at 16 cents tax paid on deficiencies.....	1, 007½	
Tobacco at 8 cents tax paid on deficiencies.....	535	
		10, 845, 052
4. Remaining unaccounted for June 30, 1884:		
Tobacco at 16 cents tax removed under exportation bonds	11, 026	
Tobacco at 8 cents tax removed under exportation bonds	747, 645½	
		758, 671½
		11, 603, 723½

EXPORTATION OF CIGARS AND CIGARETTES IN BOND.

	Number.	Number.
1. Removed and unaccounted for July 1, 1883:		
Cigars at \$6.00 per M.....	7, 500	
Cigars at \$3.00 per M.....	104, 000	
Cigarettes at \$1.75 per M.....	231, 000	
Cigarettes at 50 cents per M.....	4, 913, 000	
		5, 255, 500
2. Removed during the year ended June 30, 1884:		
Cigars at \$3.00 per M.....	1, 690, 000	
Cigarettes at 50 cents per M.....	86, 243, 485	
		87, 933, 485
		93, 188, 985

2. Exported and accounted for during the year ended June 30, 1884:		
Cigars at \$6.00 per M.....	7,500	
Cigars at \$3.00 per M.....	1,721,950	
Cigarettes at \$1.75 per M.....	231,000	
Cigarettes at 50 cents per M.....	83,338,985	
		85,299,435
4. Remaining unaccounted for at the close of the fiscal year ended June 30, 1884:		
Cigars at \$3.00 per M.....	72,050	
Cigarettes at 50 cents per M.....	7,817,500	
		7,889,550
		93,188,985

DATE OF BONDS REMAINING UNACCOUNTED FOR JUNE 30, 1884.

The years in which the bonds were given for the exportation of the tobacco, snuff, cigars, and cigarettes remaining unaccounted for by the evidence required by law for their cancellation, on June 30, 1884, are as follows, viz :

Year.	Tobacco, in pounds.	Number of cigars.	Number of cigarettes.
1879	2,360	.....	.....
1880	2,067	.....	.....
1882	2,028	.....	.....
1883	5,096	.....	101,000
1884	747,098½	72,050	7,716,500
	758,671½	72,050	7,817,500

EXPORTATION OF FRICTION MATCHES, WAX TAPERS, CIGAR LIGHTS, AND PROPRIETARY ARTICLES UNDER SECTION 19 OF THE ACT OF MARCH 1, 1879.

	Number of articles.	Amount of tax.	Number of articles.	Amount of tax.
1 Remaining unaccounted for June 30, 1883	450,276	\$4,958 64		
2 Reported during July, 1883	48,158	1,183 90		
			498,429	\$6,142 54
3 Accounted for as exported during the year	498,429	6,142 54		
4 Remaining unaccounted for June 30, 1884.....	.....	.....	498,429	6,142 54

STATEMENT of DRAWBACK of INTERNAL-REVENUE TAXES ALLOWED on EXPORTED MERCHANDISE during the fiscal year ended June 30, 1884.

Port.	No. of claims.	Propri- etary articles.	Tobacco.	Snuff.	Cigars and ci- garettes.	Fer- mented liquors.	Stills.	Dis- tilled spirits.	Total.
Baltimore	5	\$807 62	\$354 98	\$82 00	.....	.....	.....	\$31 50	\$468 48
Boston	11	.....	.....	.....	.....	.....	.....	336 60	1,144 22
Chicago	4	.....	.....	.....	.....	\$132 42	.....	.....	132 42
Cincinnati.....	1	.....	.....	.....	.....	.....	\$20 00	.....	20 00
Milwaukee	158	.....	.....	.....	.....	6,516 36	.....	.....	6,516 36
Mobile	1	.....	960 64	.....	.....	.....	.....	.....	960 64
New Orleans	40	.....	16 96	.....	\$44 00	1,222 57	.....	.....	1,283 53
New York	619	14,547 36	592 71	.....	3,227 62	3,509 33	460 00	1,673 10	24,010 12
Philadelphia	2	340 42	.....	.....	.....	.....	.....	.....	340 42
Richmond	1	.....	289 44	.....	.....	.....	.....	.....	289 44
Rochester	1	32 40	.....	.....	.....	.....	.....	.....	32 40
San Francisco.....	159	692 79	3,839 08	.....	2,402 34	234 93	.....	6,310 80	13,479 94
Saint Louis	85	.....	.....	.....	.....	3,380 69	.....	.....	3,380 69
Suspension Bridge.	1	18 83	.....	.....	.....	.....	.....	.....	18 83
Troy	2	25 92	.....	.....	.....	.....	.....	.....	25 92
Total.....	1,090	16,460 84	6,053 81	82 00	5,673 96	14,596 30	480 00	8,352 00	52,098 41
Allowed 1883	1,130	33,000 89	5,604 60	*590 92	5,195 37	6,034 16	60 00	4,608 00	55,093 94

* Chairs exported during the years 1864, 1865, 1866, and 1867 under the provisions of section 171, act of June 30, 1864.

The tax on proprietary articles was repealed by the act of March 3, 1883, section 1, and, as provided by that act, no drawback of tax on such articles when exported after July 1, 1883, has been allowed. The amount above reported as allowed on such articles was on account of exportations made prior to July 1, 1883, and outstanding on that date. The amount due and yet outstanding on this class of goods is estimated at about \$8,000, which if added to the amount above reported will about equal the amount estimated in my report for 1883 as outstanding June 30, 1883, viz, \$25,000.

MISCELLANEOUS ASSESSMENTS.

The following table shows the assessments made by the Commissioner of Internal Revenue during the fiscal years ended June 30, 1883, and June 30, 1884, respectively, and the increase or decrease on each article or occupation:

	Amount assessed during fiscal year ended—		Fiscal year ended June 30, 1884.	
	June 30, 1883.	June 30, 1884.	Increase over 1883.	Decrease from 1883.
Tax on deficiencies in production of distilled spirits	\$67, 072 85	\$69, 178 36	\$2, 105 51	.....
Tax on excess of materials used in the production of distilled spirits	8, 536 11	8, 438 41	.....	\$5, 097 70
Tax on deposits and capital of banks, bankers, and savings institutions other than national banks	2, 696, 834 36	550 61	.....	2, 696, 283 75
Tax on circulation of banks and others	805 26	228 61	.....	576 65
Tax on distilled spirits fraudulently removed or seized; also taxes overdue	1, 522, 883 12	8, 906, 401 75	7, 383, 518 63	.....
Tax on fermented liquors removed from brewery unstamped	575 81	2, 170 89	1, 595 08	.....
Tax on tobacco, snuff, and cigars removed from factory unstamped	17, 651 07	20, 569 09	2, 918 02	.....
Tax on proprietary articles removed unstamped	1, 788 00	252 62	.....	1, 535 38
Assessed penalties	80, 141 45	70, 315 20	.....	9, 826 25
Legacies and successions	22, 918 83	1, 524 17	.....	21, 394 66
Unassessed and unassessable penalties, interest, taxes previously abated, conscience money, and deficiencies in bonded accounts which have been collected; also, fines, penalties, and forfeitures and costs paid to collectors by order of court or by order of Secretary, and unassessable taxes recovered; also amount of penalties and interest received for validating unstamped instruments (Form 58)	352, 290 72	284, 188 17	.....	68, 111 55
Special taxes (licenses)	53, 588 27	66, 871 46	13, 283 19	.....
Tax on income and dividends	3, 708 19	8, 034 51	4, 326 32	.....
Total	4, 828, 803 04	9, 436, 223 85	4, 607, 420 81	.....

ASSESSMENTS FOR 1884.

The following statement shows the amount of assessments in each of the several States and Territories of the United States during the fiscal year ended June 30, 1884:

States and Territories.	Amount.	States and Territories.	Amount.
Alabama	85,644 43	Missouri.....	\$12,915 25
Arkansas.....	51,897 16	Montana, Idaho, and Utah.....	1,607 78
California and Nevada.....	80,642 39	Nebraska and Dakota.....	27,100 29
Colorado and Wyoming.....	3,361 15	New Hampshire.....	941 71
Connecticut	4,134 19	New Jersey.....	4,956 69
Delaware	376 64	New Mexico and Arizona.....	2,996 74
Florida	569 82	New York	48,027 06
Georgia.....	21,167 51	North Carolina	50,918 32
Illinois.....	33,154 55	Ohio.....	251,797 15
Indiana.....	145,992 09	Oregon and Washington.....	2,622 86
Iowa.....	27,717 63	Pennsylvania.....	980,243 52
Kansas	1,318 21	Rhode Island	679 18
Kentucky	6,651,233 54	South Carolina.....	2,834 78
Louisiana.....	36,655 82	Tennessee	106,040 40
Maine	3,191 89	Texas.....	5,198 87
Maryland	616,307 84	Vermont.....	951 89
Massachusetts.....	40,947 85	Virginia.....	29,564 53
Michigan	9,990 02	West Virginia.....	180,850 36
Minnesota.....	3,719 48	Wisconsin	22,627 81
Mississippi	615 61		
		Total	9,436,223 85

The large increase of the assessments made in the last fiscal year over the assessments made during the year ended June 30, 1883, consists in the tax on distilled spirits remaining in warehouse over three years.

This tax has been continued to be assessed, instead of being collected by the two other methods, viz, suit on warehousing bond or proceeding by distraint. Thus \$8,906,401.75 of this tax was assessed against \$1,522,883.12 in the previous year.

The increase in the assessment of special taxes or licenses is owing to the fact that no stamps were issued for taxes due but not paid within the year. Such taxes are now assessed.

The tax on capital and deposits of banks and bankers was repealed by the act of March 3, 1883. The small amount of \$550.61 assessed was for tax due before the passage of the act.

The tax on legacies and successions was repealed by the act of July 14, 1870, and it is believed that there is now but a small amount due the United States from this source.

The decrease of \$68,111.55 assessed on Form 58 is owing to the circumstance that only \$181,545.11, amounts collected in compromise cases, was assessed on this form, against \$211,524.68 in the previous year.

I have the honor to subscribe myself, very respectfully,

WALTER EVANS,
Commissioner.

The Hon. SECRETARY OF THE TREASURY.

REPORT OF THE COMPTROLLER OF THE CURRENCY.

TREASURY DEPARTMENT,
OFFICE OF COMPTROLLER OF THE CURRENCY,
Washington, December 1, 1884.

I have the honor to submit for the consideration of Congress, in compliance with section 333 of the Revised Statutes of the United States, the twenty-second annual report of the Comptroller of the Currency.

During the year ending November 1, 1884, 191 banks have been organized with an aggregate capital of \$16,042,230; circulating notes have been issued to these new associations amounting to \$3,866,230.

The following table gives the number of banks organized in each State and Territory during the year ending November 1, 1884, with their aggregate capital and circulation:

States and Territories.	No. of banks.	Capital.	Bonds deposited.	Circulation issued.
Kansas	22	\$1, 254, 580	\$337, 500	\$303, 640
Nebraska.....	20	1, 850, 000	827, 000	292, 400
Texas.....	16	1, 816, 100	481, 500	364, 490
Michigan	14	829, 000	265, 000	224, 950
Iowa.....	18	785, 500	219, 000	197, 090
Pennsylvania.....	10	1, 023, 500	406, 500	309, 690
New York.....	10	538, 750	286, 000	250, 670
Minnesota.....	8	1, 827, 700	287, 500	236, 230
Ohio.....	7	1, 074, 100	221, 000	192, 390
Illinois.....	7	1, 035, 000	275, 500	247, 950
Dakota.....	7	373, 000	100, 500	90, 420
Missouri.....	5	275, 000	68, 750	61, 830
Wisconsin.....	5	245, 000	105, 500	94, 940
Massachusetts.....	4	525, 000	123, 000	110, 700
Montana.....	4	275, 000	68, 750	61, 860
Vermont.....	4	180, 000	90, 000	67, 490
Tennessee.....	3	340, 000	95, 000	85, 500
Colorado.....	3	180, 000	52, 500	47, 240
Washington Territory.....	3	160, 000	40, 000	36, 000
Maryland.....	3	150, 000	81, 500	73, 850
Mississippi.....	2	190, 000	50, 000	22, 500
Maine.....	2	105, 000	100, 000	85, 500
Georgia.....	2	105, 000	27, 000	24, 300
New Jersey.....	2	100, 000	25, 500	22, 940
West Virginia.....	2	90, 000	52, 500	47, 240
New Mexico.....	2	85, 000	25, 000	22, 500
Alabama.....	1	250, 000	50, 000	45, 000
Indiana.....	1	230, 000	60, 000	54, 000
Oregon.....	1	150, 000	37, 500	32, 740
Utah.....	1	150, 000	50, 000	45, 000
Kentucky.....	1	60, 000	15, 000	13, 500
South Carolina.....	1	50, 000	12, 600	11, 300
Florida.....	1	50, 000	12, 500	11, 240
California.....	1	50, 000	30, 000	27, 000
Arizona.....	1	50, 000	12, 500	11, 250
Idaho.....	1	50, 000	12, 500	11, 240
Virginia.....	1	40, 000	82, 500	29, 250
Totals	191	16, 042, 230	4, 487, 100	3, 866, 230

These banks are located by geographical divisions as follows: Eastern States ten banks, with capital of \$810,000; Middle States twenty-five, with capital of \$1,812,250; Southern States thirty, with capital of \$2,991,100; Western States one hundred and two, with capital of \$8,905,880; Pacific States five, with capital of \$380,000; Territories nineteen, with capital of \$1,143,000.

Since the establishment of the national banking system on February 25, 1863, there have been organized 3,261 national banks. Of these, 404*

* Exclusive of the Metropolitan National Bank, of New York City, which was placed in voluntary liquidation November 18, 1884.

have gone into voluntary liquidation for the purpose of winding up their affairs, 70 have gone into voluntary liquidation for the purpose of reorganization, 16 are in liquidation by expiration of their charter, of which number six have been reorganized, and 100 have been placed in the hands of receivers for the purpose of closing up their affairs, leaving the total number in existence on November 1, 1884, 2,671, which is the largest number that has been in operation at any one time.

The corporate existence of 90 national banks expired during the year ending November 1, 1884, of which 83 have been extended under the act of July 12, 1882, six have permitted their corporate existence to expire and are in liquidation under section 7 of said act (four of which have been succeeded by other banks located in the same places and with nearly the same shareholders), and one has been placed in voluntary liquidation by vote of shareholders owning two-thirds of its stock. The corporate existence of 154 national banks, with an aggregate capital of \$56,161,370, will expire during November and December of this year, and the corporate existence of 720 national banks, with an aggregate capital of \$188,971,475 will expire during 1885.

Eleven national banks, with an aggregate capital of \$1,285,000, have failed and been placed in the hands of receivers during the year.

COMPARATIVE STATEMENTS OF THE NATIONAL BANKS FOR ELEVEN YEARS.

The following table exhibits the resources and liabilities of the national banks for eleven years, at nearly corresponding dates, from 1874 to 1884, inclusive:

	Oct. 2, 1874.	Oct. 1, 1875.	Oct. 2, 1876.	Oct. 1, 1877.	Oct. 1, 1878.	Oct. 2, 1879.	Oct. 1, 1880.	Oct. 1, 1881.	Oct. 2, 1882.	Oct. 2, 1883.	Sep. 30, 1884.
	2,004 banks.	2,047 banks.	2,089 banks.	2,080 banks.	2,053 banks.	2,048 banks.	2,090 banks.	2,132 banks.	2,269 banks.	2,501 banks.	2,664 banks.
RESOURCES.											
Loans.....	954.4	984.7	931.3	891.9	834.0	878.5	1,041.0	1,173.8	1,243.2	1,309.2	1,245.8
Bonds for circulat'n.....	383.3	370.3	337.2	336.8	347.6	357.3	357.8	363.3	357.6	351.4	327.4
Other U. S. bonds.....	28.0	28.1	47.8	45.0	94.7	71.2	43.6	56.5	37.4	30.7	30.4
Stocks, bonds, &c.....	27.8	33.5	34.4	34.5	36.0	39.7	48.9	61.9	66.2	71.1	71.4
Due from banks.....	134.8	144.7	146.9	129.9	138.9	167.3	213.5	230.8	194.9	208.9	194.2
Real estate.....	38.1	42.4	43.1	45.2	46.7	47.8	48.0	47.3	46.5	48.3	49.9
Specie.....	21.2	8.1	21.4	22.7	30.7	42.2	109.3	114.3	102.9	107.8	128.6
Legal-tender notes.....	80.0	76.5	84.2	66.9	64.4	69.2	56.6	53.2	63.2	70.7	77.0
Nat'l-bank notes.....	18.5	18.5	15.9	15.6	16.9	16.7	18.2	17.7	20.7	22.7	23.3
C. H. exchanges.....	109.7	87.9	100.0	74.5	82.4	113.0	121.1	189.2	208.4	96.4	64.3
U. S. cert. of deposit.....	42.8	48.8	29.2	33.4	32.7	26.8	7.7	6.7	8.7	10.0	14.2
Due from U. S. Treas.....	20.3	19.6	16.7	16.0	16.5	17.0	17.1	17.5	17.2	16.6	17.7
Other resources.....	18.3	19.1	19.1	28.7	24.9	22.1	23.0	26.2	28.9	28.0	33.8
Totals.....	1,877.2	1,882.2	1,827.2	1,741.1	1,767.3	1,868.8	2,105.8	2,358.4	2,399.8	2,372.7	2,279.5
LIABILITIES.											
Capital stock.....	493.8	504.8	499.8	479.5	466.2	454.1	457.6	463.8	483.1	509.7	524.3
Surplus fund.....	122.0	124.4	132.2	122.8	116.9	114.8	120.5	128.1	132.0	142.0	147.0
Undivided profits.....	51.5	53.0	46.4	44.5	44.9	41.3	46.1	56.4	61.2	61.6	63.2
Circulation.....	834.2	819.1	202.2	201.9	301.9	813.8	817.3	320.2	315.0	310.5	249.8
Due to depositors.....	683.8	679.4	666.2	630.4	668.4	736.9	887.0	1,083.1	1,134.9	1,063.6	943.0
Due to banks.....	175.8	179.7	179.8	161.6	165.1	201.2	267.9	294.9	269.9	270.4	240.4
Other liabilities.....	9.1	11.8	10.6	10.4	7.9	6.7	8.5	11.9	13.7	14.9	15.8
Totals.....	1,877.2	1,882.2	1,827.2	1,741.1	1,767.8	1,868.8	2,105.8	2,358.4	2,399.8	2,372.7	2,279.5

The different items of resources and liabilities in the preceding table indicate that the business of the national banks during the past eleven

years has generally increased. The items of United States bonds and circulation thereon have decreased during the past two years. It also appears from the table that the aggregate liabilities of the national banks to depositors and correspondents were reduced during the year upwards of 94 millions. This reduction of liabilities and the general reduction of loans by the banks, which amounted to over 63 millions during the year, was doubtless occasioned by the financial troubles of May and the general depression of business. The table shows that during the same period the national banks increased their cash resources by about 21 millions of specie and 11 millions of legal-tenders and United States certificates of deposit for same.

The following table is an abstract of the resources and liabilities of the national banks at the close of business on the 30th day of September, 1884, the condition of the New York City, Boston, Philadelphia, Baltimore, and other reserve city banks being tabulated separately from the other banks of the country:

	New York City.	Boston, Phila- delphia, and Baltimore.	Other reserve cities.*	Country banks.	Aggregate.
	44 banks.	104 banks.	99 banks.	2,417 banks.	2,804 banks.
RESOURCES.					
Loans and discounts	\$206, 853, 277	\$190, 238, 078	\$142, 624, 980	\$682, 354, 481	\$1, 240, 070, 796
Overdrafts	130, 238	135, 977	336, 800	4, 030, 275	5, 223, 296
Bonds for circulation	15, 802, 500	43, 000, 050	26, 283, 600	242, 558, 050	327, 435, 000
Bonds for deposits	820, 000	675, 000	4, 413, 000	10, 932, 000	16, 840, 000
U. S. bonds on hand	4, 064, 050	180, 400	2, 279, 000	7, 054, 350	13, 578, 000
Other stocks and bonds	13, 020, 739	7, 156, 000	5, 324, 615	43, 862, 033	71, 363, 477
Due from reserve agents		17, 184, 005	15, 156, 805	79, 052, 120	111, 993, 020
Due from other national banks	17, 352, 486	14, 227, 847	8, 681, 331	30, 078, 331	66, 835, 545
Due from other banks and bankers	2, 118, 697	1, 406, 653	3, 723, 646	3, 494, 767	15, 833, 983
Real estate, furniture, and fix- tures	9, 745, 176	6, 473, 467	4, 835, 973	28, 844, 271	49, 900, 867
Current expenses	731, 631	763, 129	862, 642	4, 566, 097	6, 913, 509
Premiums	1, 031, 284	1, 052, 500	1, 227, 066	3, 320, 848	11, 632, 612
Checks and other cash items	2, 391, 517	1, 216, 748	708, 819	2, 780, 015	13, 103, 099
Clearing-house loan certificates	1, 690, 000				1, 690, 000
Exchanges for clearing-house	44, 005, 521	14, 005, 905	8, 441, 564	1, 204, 128	66, 257, 118
Bills of other national banks	2, 208, 406	2, 003, 004	3, 232, 068	14, 913, 578	23, 258, 854
Fractional currency	31, 832	45, 750	56, 806	303, 578	469, 024
Specie	63, 112, 318	15, 351, 275	14, 806, 706	35, 238, 176	128, 609, 475
Legal tender notes	22, 685, 808	8, 668, 237	15, 097, 774	30, 306, 440	77, 048, 259
U. S. certificates of deposit	4, 145, 000	7, 495, 000	2, 050, 000	600, 000	14, 290, 000
Five per cent. redemption fund	684, 106	1, 886, 080	1, 166, 497	10, 518, 828	14, 305, 016
Due from U. S. Treasurer	2, 584, 758	179, 600	164, 255	502, 677	3, 431, 290
Totals	418, 701, 393	343, 998, 620	259, 567, 423	1, 262, 226, 444	2, 279, 493, 880
LIABILITIES.					
Capital stock	46, 250, 000	80, 721, 260	58, 016, 600	344, 279, 485	524, 266, 345
Surplus fund	22, 632, 580	28, 741, 408	13, 709, 459	86, 962, 396	147, 045, 833
Undivided profits	11, 091, 112	6, 911, 290	6, 160, 929	39, 069, 611	63, 232, 942
National-bank notes outstand- ing	13, 202, 362	37, 936, 931	23, 236, 834	215, 308, 496	289, 775, 123
State-bank notes outstanding	37, 843	20, 854		120, 956	179, 653
Dividends unpaid	243, 254	1, 302, 469	223, 824	1, 856, 613	3, 626, 160
Individual deposits	207, 105, 659	144, 388, 221	112, 920, 281	510, 757, 135	975, 250, 296
U. S. deposits	428, 871	474, 508	3, 054, 781	6, 378, 038	10, 336, 198
Deposits of U. S. disbursing officers	219, 984		803, 861	2, 653, 443	3, 676, 808
Due to national banks	62, 476, 635	27, 272, 743	25, 845, 386	28, 861, 180	173, 975, 894
Due to other banks and bankers	39, 922, 099	10, 915, 838	18, 118, 770	13, 465, 116	72, 421, 013
Notes and bills rediscounted			1, 173, 598	0, 889, 905	11, 043, 563
Bills payable		256, 000	1, 305, 080	3, 094, 070	4, 594, 150
Totals	418, 701, 393	343, 998, 620	259, 567, 423	1, 262, 226, 444	2, 279, 493, 880

* The reserve cities, in addition to New York, Boston, Philadelphia, and Baltimore, are Albany, Pittsburgh, Washington, New Orleans, Louisville, Cincinnati, Cleveland, Chicago, Detroit, Milwaukee, Saint Louis, and San Francisco.

The following table exhibits, in the order of their capital, the twenty-five States having the largest amount of capital, together with the amount of circulation, loans and discounts, and individual deposits of each on September 30, 1884:

States.	Capital.	Circulation.	Loans and discounts.	Individual deposits.
Massachusetts.....	\$45,727,500	\$25,602,300	\$83,697,407	\$45,432,700
New York.....	35,223,300	25,313,183	80,250,880	73,972,478
Pennsylvania.....	32,213,840	24,233,855	68,797,260	60,987,552
Connecticut.....	25,950,820	16,451,652	40,436,241	21,147,279
Ohio.....	22,030,000	14,208,220	41,760,901	31,801,141
Rhode Island.....	20,540,050	13,686,336	30,144,229	11,562,204
Indiana.....	13,838,500	7,610,230	25,592,002	19,255,221
Illinois.....	13,540,600	6,984,632	31,286,349	26,543,196
New Jersey.....	12,253,350	8,436,679	30,143,862	28,743,311
Minnesota.....	11,357,700	1,995,849	23,197,182	18,971,428
Maine.....	10,300,000	7,862,086	17,423,202	9,522,367
Iowa.....	10,145,500	4,163,941	20,034,290	16,123,780
Michigan.....	9,794,600	2,711,405	21,299,816	16,151,037
Kentucky.....	9,458,900	6,462,460	14,854,600	8,922,521
Vermont.....	8,011,000	5,770,185	11,505,760	4,921,911
New Hampshire.....	8,105,000	5,173,915	8,417,845	4,961,212
Texas.....	5,970,000	1,648,985	11,297,055	7,927,568
Tennessee.....	5,005,300	2,267,250	11,376,305	8,258,202
Nebraska.....	4,735,000	1,704,720	12,448,429	9,306,207
Kansas.....	3,844,680	1,296,790	8,499,011	3,302,364
Wisconsin.....	3,750,000	1,671,923	9,063,410	6,853,236
Virginia.....	3,536,700	2,281,200	11,702,147	10,795,069
Missouri.....	2,005,000	1,215,183	6,911,991	5,863,746
Maryland.....	2,078,200	2,176,329	6,036,276	5,848,748
Georgia.....	2,436,000	1,637,890	4,846,807	2,611,117

NUMBER, CAPITAL, AND DEPOSITS OF NATIONAL BANKS, STATE AND SAVINGS BANKS, AND PRIVATE BANKERS.

Section 333 of the Revised Statutes of the United States requires the Comptroller to present annually to Congress a statement of the condition of the banks and savings banks organized under State laws. Returns of capital and deposits have hitherto been made by these institutions and by private bankers semi-annually to this Department for purposes of taxation. From these returns the following table has been compiled, exhibiting in concise form, by geographical divisions, the total average capital and deposits of all the State and savings banks and private bankers of the country for the six months ending November 30, 1882, being the last semi-annual period for which State and savings banks and private bankers were required to make returns for taxation purposes:

Geographical divisions.	State banks and trust companies.			Private bankers.			Savings banks with capital.			Savings banks without capital.	
	No.	Capital.	Deposits.	No.	Capital.	Deposits.	No.	Capital.	Deposits.	No.	Deposits.
		Mill's.	Mill's.		Mill's.	Mill's.		Mill's.	Mill's.		Mill's.
New England States.....	40	8.80	31.04	94	6.22	6.57	2	0.10	0.89	420	436.25
Middle States.....	310	21.00	244.02	967	62.42	112.60	8	0.63	5.24	171	486.98
Southern States.....	248	25.84	45.94	239	6.33	20.68	7	0.56	1.50	2	1.80
Western States and Territories.....	563	48.90	168.40	2,062	30.31	149.02	25	2.78	35.74	32	35.23
United States.....	1,061	104.54	490.00	3,412	105.28	288.96	42	4.02	42.47	625	960.26

The capital of the 2,308 national banks in operation on December 30, 1882, being the date of their report nearest to that of the table given

above, as will be seen by a table in the Appendix, was \$484,883,492, not including surplus, which fund at that date amounted to more than 135 millions of dollars, while the average capital of all the State banks, private bankers, and savings banks for the six months ending November 30, 1882, was but \$232,435,330. The latter amount is less than two-fifths of the combined capital and surplus of the national banks at practically the same time.

The table below exhibits the capital and net deposits of the national banks on December 30, 1882, together with the aggregate average capital and deposits of all classes of banks other than national for the six months ending November 30, 1882:

Geographical divisions.	State banks, savings banks, private bankers, &c.			National banks.			Total.		
	No.	Capital.	Deposits.	No.	Capital.	Deposits.	No.	Capital.	Deposits.
		Millions.	Millions.		Millions.	Millions.		Millions.	Millions.
New England States.	556	14.62	475.85	500	108.23	198.15	1,116	180.85	668.50
Middle States	1,256	108.66	840.08	891	178.19	556.55	2,047	276.85	1,406.56
Southern States	646	82.23	68.90	214	34.90	68.84	760	67.03	138.74
Western States and Territories	2,862	81.93	388.42	843	110.86	391.28	3,525	164.62	688.70
United States...	5,140	232.44	1,782.70	2,308	484.88	1,119.82	7,448	717.32	2,902.68

The total number of banks and bankers in the country at the date named was 7,448, with a total banking capital of \$717,318,822, and total deposits of \$2,902,522,245.

In the Appendix will be found similar tables for various periods from 1875 to 1882. On a subsequent page in this report, under the head of "State banks, savings banks, and trust companies," will be found tables showing the resources and liabilities of these corporations for the present year, and in the Appendix similar results for previous years.

A table arranged by States and principal cities, giving the number, capital, and deposits, and the tax thereon, of all banking institutions other than national, and of the private bankers of the country, for the six months ending November 30, 1882, and for previous years, will also be found in the Appendix.

The following table exhibits, for corresponding dates nearest to May 31, in each of the last seven years, and to November 30, 1882, the aggregate amounts of the capital and deposits of each of the classes of banks given in the foregoing table:

Years.	National banks.			State banks, private bankers, &c.			Savings banks with capital.			Savings banks without capital.		Total.		
	No.	Capital.	Deposits.	No.	Capital.	Deposits.	No.	Capital.	Deposits.	No.	Deposits.	No.	Capital.	Deposits.
		Mill's.	Mill's.		Mill's.	Mill's.		Mill's.	Mill's.		Mill's.		Mill's.	Mill's.
1876...	2,091	500.4	713.5	2,803	214.0	480.0	26	5.0	37.2	691	844.8	8,611	719.4	2,075.8
1877...	2,078	481.0	768.2	2,709	218.6	470.5	26	4.9	38.2	676	843.2	8,579	704.5	2,120.1
1878...	2,056	470.4	677.2	2,799	202.2	418.2	23	3.2	26.2	668	803.3	6,450	675.8	1,920.0
1879...	2,046	435.2	712.4	2,639	197.0	397.0	29	4.2	36.1	644	747.1	6,360	656.5	1,893.5
1880...	2,076	455.9	900.8	2,798	190.1	501.5	29	4.0	34.6	629	763.0	6,532	650.0	2,219.9
1881...	2,115	460.2	1,089.9	4,016	208.5	627.5	36	4.2	37.6	629	862.2	6,796	670.9	2,667.2
1882...	2,239	477.2	1,181.7	4,403	231.0	747.6	38	8.9	41.8	623	929.8	7,802	712.1	2,850.4
1882*.	2,308	484.0	1,119.8	4,473	228.4	779.0	41	4.0	48.5	625	900.2	7,448	717.3	2,902.5

* In the last table of the series the returns are given for the six months ending May 31, 1882, and also for the six months ending November 30, of the same year.

It will be noticed that the first two tables of this chapter are for the six months ending November 30, while all similar tables in previous reports have been for the six months ending May 31. The law repealing the tax on capital and deposits of State banks and private bankers went into effect on November 30, 1882, in accordance with the opinion of the Attorney-General, and for this reason the Comptroller has given the returns to that date, which will be the last data to be obtained from this source. It is probable that the number, capital, and deposits of the State banks, savings banks, and private bankers have been materially decreased by the recent financial troubles.

EXTENSION OF THE CORPORATE EXISTENCE OF NATIONAL BANKS.

On November 1, 1884, 398 banks had extended their corporate existence under the act of July 12, 1882. In the Appendix will be found a table showing the distribution and capital of these banks by States. During the year ending November 1, 1884, the periods of succession of 90 banks, as fixed by the dates of their organization certificates and the terms of their articles of association, terminated. Of these, 83 have extended their corporate existence under the act mentioned. One was placed in voluntary liquidation prior to expiration by the vote of stockholders owning two-thirds of its stock. Of the 6 remaining banks expiring during the year, 2 were not extended, but were permitted by their stockholders to close at the end of their periods of succession, and to liquidate under section 7 of the act of July 12, 1882, while 4 were succeeded by other associations, with different names, with the same shareholders wholly or in part.

The total number of banks still in operation organized under the act of June 3, 1864, and the provisions of the Revised Statutes, the periods of succession of which will terminate, unless hereafter renewed, during the years previous to 1900, is 1,488, with capital and circulation as follows:

Years.	No. of banks.	Capital.	Circulation.
1884*	154	\$50,161,370	\$22,536,590
1885	720	188,971,475	107,484,115
1886	19	2,715,300	1,758,250
1887	5	950,000	925,000
1888	11	1,250,000	710,100
1889	3	600,000	450,000
1890	63	9,290,500	8,419,050
1891	104	13,191,900	9,120,880
1892	103	12,870,000	8,300,870
1893	39	4,740,000	3,849,400
1894	67	7,638,000	5,819,150
1895	81	10,065,000	7,650,000
1896	23	1,008,000	1,525,300
1897	28	2,900,000	2,100,000
1898	27	2,649,000	2,208,000
1899	41	4,820,000	3,811,900
Totals.....	1,488	321,461,145	194,745,305

* From November 1 to December 31, inclusive.

The number, capital, and circulation of the national banks whose periods of succession will terminate during each month of the year 1885 are as follows:

Month.	Num- ber of banks.	Capital stock.	United States bonds.	Circulation.
January	109	\$27,534,500	\$18,927,450	\$17,019,765
February	68	11,586,000	8,885,500	7,905,740
March	125	32,325,750	20,637,700	18,638,000
April	86	25,241,970	16,456,350	14,780,165
May	111	28,362,340	21,550,850	19,288,925
June	139	46,804,915	24,757,100	22,021,360
July	24	4,815,000	2,375,400	2,047,800
August	14	1,901,000	1,250,000	1,129,500
September	13	1,835,000	1,175,500	1,053,250
October	7	1,175,000	835,000	730,200
November	6	1,200,000	1,160,000	1,062,000
December	8	3,000,000	2,025,000	1,808,200
Totals	720	188,971,475	120,000,850	107,484,115

In the Appendix will be found a table giving the names of each of the banks whose periods of succession terminate during the year 1885, with their capital and outstanding circulation. This table shows that seven hundred and twenty national banks, with a combined capital of \$188,971,475, will thus terminate during the year 1885, unless their stockholders avail themselves of the provisions of the act of July 12, 1882. From the experience of the last two years it is highly probable the larger portion of these banks will extend their corporate existence. These associations represent more than one third of the entire capital of the national banking system, and attention is respectfully called to the large additional amount of labor the extension of these banks will throw upon the office of the Comptroller of the Currency. This labor will be augmented by the provisions of section 6 of the act referred to, requiring that the circulating notes of any association extending its period of succession which shall have been issued to it prior to its extension shall be redeemed at the Treasury of the United States as provided in section 8, act of June 20, 1874, and that such notes when redeemed shall be forwarded to the Comptroller of the Currency and destroyed as now provided by law, and that at the end of three years from the date of the extension of each bank, the association so extended shall deposit lawful money with the Treasurer of the United States sufficient to redeem the remainder of the circulation which was outstanding at the date of its extension.

The same section also provides that the notes issued to such extending associations after the date of their extension, shall be of a different design, easily distinguished from those issued before such date.

To carry out these provisions of section 6 requires the keeping of two different accounts in the case of each extended bank—one for the old and one for the new circulation. During the year 1885 the work of keeping the circulation accounts of about one-half of the national banks will be doubled.

CIRCULATION.

Under the present provisions of law, national banks may be organized with a capital of from \$50,000 to \$150,000, upon depositing with the Treasurer of the United States, in trust, 25 per cent. of their capital stock in United States bonds, and banks with a capital of upwards of \$150,000

can be organized upon the deposit of \$50,000 of bonds. Upon this basis the 2,664 national banks in existence in the United States and Territories on October 1, 1884, would require a minimum of but \$80,443,127 of United States bonds in order to continue as national banking associations. There is no doubt but that the national banking system has been of great value to this country in many ways other than the supplying a sound and almost perfect paper currency. The additional safety afforded to depositors by the restrictions and precautionary provisions of the act, the publicity of reports of the condition of the banks, and the regular examination and supervision by officers of the Government, is well understood by the public, and it is probable that the people would demand that if possible the system be continued, even if the public debt be hereafter reduced to a point where it is impossible for the banks to issue more than the amount of circulation that can be secured by the minimum of bonds now required by law. Although it is possible that the public confidence in national banks will enable associations organized under the act to do a much larger and more profitable business than if organized under the laws of the various States, it is probable that were there no profits on circulation, bankers as a rule might be unwilling to submit to the restrictions which, as safeguards to the public, the national banking law compels those who organize associations under it to submit to, and that therefore when the profit on circulation is reduced to a point where it does not compensate for the inconvenience of the restrictions, many national banks will leave the system.

Various plans have been advanced to perpetuate the issue by national banks of a circulation which should be safe for the public and reasonably profitable to themselves, both during the period of the reduction of the bonded debt of the United States and after such debt shall have been paid, it having been suggested that under the latter circumstances circulation might be issued upon securities other than United States bonds.

The time of the final payment of the debt is, however, yet distant, and with appropriate legislation there will probably be for many years no lack of bonds as a safe basis of circulation. Moreover, no feasible plan with other security has as yet been suggested, affording a sound currency redeemable on demand in specie, and the Comptroller believes that it is extremely doubtful whether after their experience for the last twenty years with the safe and convenient currency issued by the national banks, the people would be satisfied with a currency based on any security other than United States bonds.

Public sentiment seems to be in favor of the payment of the public debt as rapidly as possible, and while no doubt this is in general a correct principle, yet as it is apparent that such payment must extend under the most favorable circumstances over a long future period, the interest during which time is as much a portion of the debt as the principal, it is a question if it would not be of ultimate benefit to the country and a payment of the debt to reduce the interest upon it to a minimum rate and defer the payment of the principal, thus giving for many years a safe basis for national-bank circulation. This course would be particularly advantageous if the revenues of the Government are hereafter reduced to a point which, after providing sufficient means for carrying on public business, will necessitate a more gradual reduction of the principal of the debt. Not only is the future of national-bank circulation menaced by the fact that as the debt is paid it will be difficult to substitute any other secure basis for circulation, but it is also

evident that under present laws and the present condition of the public debt the banks cannot long afford to maintain even the circulation now outstanding. The following table gives the various kinds and amounts of bonds held by the banks on November 1, 1883, and November 1, 1884:

	1883.	1884.
Three and a half.....	\$632, 000	.....
Threes	201, 327, 750	\$155, 604, 400
Four and a half.....	41, 319, 700	49, 537, 450
Pacific sixes.....	3, 463, 000	3, 460, 000
Fours	106, 164, 850	116, 705, 450
	352, 907, 300	325, 316, 300

Upon reference to this table it will be seen that the aggregate reduction of bonds deposited as security for circulation for the year ending November 1, 1884, was \$27,591,000, and the changes were as follows: A reduction of \$45,723,350 in amount of three per cent. bonds held; a reduction of \$632,000, being all the three and one-half per cents held; an increase of \$10,540,600 in four per cents; an increase of \$8,217,750 in four and one-half per cents, and an increase of \$6,000 in Pacific sixes. The total reduction of bonds deposited to secure circulation would have been much greater, but the financial troubles of May reduced the market price of the four and four and one-half per cents, and banks were enabled for a time to replace their called three per cents by fours and four and one-halves at a price which afforded an increased profit on circulation, and new banks took advantage of this state of affairs and also purchased fours and four and one-halves for deposit to secure their circulation. It will be seen upon reference to the table that the banks held on November 1, 1884, \$155,604,400 of the three per cent. bonds under the act of July 12, 1882, payable at the pleasure of the Government.* The total amount of these bonds outstanding on November 1 was \$194,190,500, and it is probable that unless the surplus revenues are greatly reduced these bonds will all be paid within the next two years, and, as has been pointed out by my predecessor in former reports, there is great danger of a severe and rapid contraction of the circulation; for while many banks will no doubt continue to replace a portion of their called threes with other higher-rate and higher-priced bonds, the tendency is and will be to reduce the circulation to the minimum required by law. The following table shows the decrease of national-bank circulation during the years ending November 1, 1883, and November 1, 1884:

National-bank notes outstanding November 1, 1882, including notes of national gold banks.....	\$362, 727, 747	
Less lawful money on deposit at same date, including deposits of gold banks.....	38, 423, 404	
		\$324, 304, 343
National-bank notes outstanding November 1, 1883.....	352, 013, 767	
Less lawful money on deposit November 1, 1883.....	35, 993, 461	
		316, 020, 326
Net decrease of circulation in 1883.....		8, 284, 017

* Of these bonds \$9,586,200 have been called for payment on which interest ceased on November 1, 1884. If these bonds are not replaced by others bearing interest, there will be an immediate further reduction in circulation of 90 per cent. of their amount.

National-bank notes outstanding November 1, 1883, including notes of national gold banks.....	\$352, 013, 787	
Less lawful money on deposit at same date, including deposits of national gold banks.....	35, 993, 461	\$316, 020, 326
National-bank notes outstanding November 1, 1884, including notes of national gold banks.....	333, 559, 813	
Less lawful money on deposit at same date, including deposits of national gold banks.....	41, 710, 163	291, 849, 650
Net decrease of circulation in 1884.....		24, 170, 676

It is probable that the reduction of circulation will also be increased by the withdrawal and sale of four per cent. bonds now deposited by the banks in excess of the minimum required by law, as the reduction of the debt by the payment of threes will no doubt increase the price of fours, owing to reinvestments of trust funds, &c., now invested in threes, and if for any reason the price advances, the banks will desire to realize the premium for use in business or to divide as a profit among their shareholders.

Drawing conclusions from these facts, the Comptroller estimates that unless legislation shall shortly be had which will enable the banks to issue currency at a fair profit, circulation will from the present time be reduced at the rate of at least \$40,000,000 per annum.

In the last reports of the Comptroller various suggestions were made as to legislation which should be enacted to prevent this rapid contraction of national-bank circulation, and the subject attracted much attention during the last session of Congress. The most prominent measures were those introduced in the Senate by Senators McPherson and Aldrich, and in the House of Representatives by Mr. Potter.

The bill introduced by Senator McPherson provided that any national banking association shall be entitled to receive from the Comptroller of the Currency circulating notes not exceeding in amount the par value of the bonds deposited, and further provides that the total amounts of such notes issued to any association shall not exceed the amount of its paid-in capital stock. This bill passed the Senate and was favorably reported to the House by the Banking and Currency Committee, and is now upon the regular calendar of the House. In case it should become a law, it would increase the aggregate circulation of national banks upon the basis of the present deposit of United States bonds with the Treasurer in trust to the amount of about \$32,000,000, and would increase the profit to the banks on circulation from two-fifths to three-fifths of 1 per cent. per annum. No doubt the increased profits which by this bill would inure to the banks would induce those holding fours to continue to hold them, and the profits would probably be sufficient to induce banks who hold threes to replace them when called for redemption with four per cents. The passage of this bill seems a simple and feasible measure of relief to the banks, and while it is possible that some bill which provided for the funding of the high-rate bonds into bonds bearing a lower rate of interest would afford more permanent relief, the bill of Senator McPherson is regarded as an excellent measure by the Comptroller, and would not interfere with any funding bill which might hereafter become a law.

The bill introduced by Senator Aldrich provides for the exchange of four per cent. consols of 1907 for three per cent. bonds having the same time to run. Under its provisions the Government pays a difference of 15 per cent. between the four per cents and the threes. The bill

also provides for the issuance of circulation equal in amount to the par value of the bonds deposited. The additional profits accruing under this bill, if it should become a law, would be from about one-half of 1 per cent. to about 1 per cent. per annum, according to the bank rates for loans on the three per cent. bonds which replace the fours, and it is believed that this would be a permanent measure of relief to the banks. The bill introduced by Mr. Potter in the House provides for the refunding of the three, four, and four and one-half per cent. bonds into two and one-half per cents payable at same time and to be redeemed in the same manner as those for which they are exchanged. The bill also provides for a reduction of the tax upon circulation based upon the proposed two and one-half per cent. bonds of one-half of 1 per cent. per annum, while the tax upon circulation based upon all other classes of United States bonds remains at 1 per cent. per annum. Under this bill the provisions for obtaining currency on the bonds deposited would be the same as under the present law, viz, 90 per cent. of the par value of the bonds deposited. The bill, so far as the funding of the high-rate bonds is concerned, is similar to the Aldrich bill, the latter providing for the refunding of the fours only. It is believed by many that the provisions in the Potter bill relating to the purchase of the bonds by the Secretary of the Treasury would be somewhat difficult to carry out, and it is a question whether it would be constitutional for Congress to make any discriminations in the tax imposed on circulation based on different classes of United States bonds, as it must be remembered that the tax is on the circulation and not on the bonds. If this bill, with some modifications, should become a law, no doubt the additional profits which would accrue to the banks under its operation would be a permanent benefit and assist in preventing the contraction of the currency.

A table has been prepared, and will be found in the Appendix, which shows the additional circulation which the banks in each State would be entitled to in case a law is enacted permitting them to issue circulation to the amount of the par value of the bonds deposited in trust with the Treasurer of the United States.

The measures which were introduced at the last session of Congress involving a funding of the public debt provided that the bonds issued in exchange for those now outstanding shall have the same time of maturity as those for which they are exchanged. No provision is made by these bills to enable the Government to use any surplus revenue which it may desire to devote to the payment of the public debt during the long periods between the maturities of the present four and one-half and four per cent. bonds.

The following table shows the bonded debt of the United States on November 1, 1884:

Three per cents, payable option United States.....	\$194,190,500
Four and a half per cents, payable September 1, 1891.....	250,000,000
Pacific Railway sixes, payable January 16 and November 1, 1895.....	\$3,002,000
Pacific Railway sixes, payable January 1 and February 1, 1896.....	8,000,000
Pacific Railway sixes, payable January 1, 1897.....	9,712,000
Pacific Railway sixes, payable January 1, 1898.....	29,904,952
Pacific Railway sixes, payable January 1, 1899.....	14,004,560
	<hr/>
	64,623,512
Four per cents, payable July 1, 1907.....	737,691,550
	<hr/>
Total.....	1,246,505,562

NOTE.—The Navy pension fund, amounting to \$14,000,000 in three per cents, the interest upon which is applied to the payment of naval pensions exclusively, and \$264,800 of four per cent. refunding certificates, are not included in the table.

It will be seen upon an examination of this table that there are \$194,190,500 of three per cent. bonds now payable at the pleasure of the Government. These bonds will probably be paid within the next two years, even if considerable changes are made in the tariff; and from 1887 to 1891, when the \$250,000,000 of four and one-half per cents shown by the table mature, there will be no bonds which the Government can call in for redemption. No doubt the accumulation of surplus revenue, if it continues to accrue at the present rate during the four years between 1887 and 1891, together with the revenues of 1892, will be more than sufficient to pay off the four and one-half per cents; and from 1892 until 1907 it will be impossible for the Government to use any of its surplus revenues for the payment of its bonds except at the option of their holders. It is apparent that the Government cannot accumulate and hold its surplus revenues, even during the short period from 1887 to 1892, without great disturbances to the business interests of the country, and much less can it do so during the longer period from 1892 to 1907.

It appears, therefore, that the foregoing considerations should be given due weight in any plan for the funding of the four per cent. bonds maturing in 1907, and the Comptroller therefore suggests that the principal difficulties of the situation may, perhaps, be obviated, as well as the reduction of interest effected, by funding these bonds into others which shall mature in proportionate amounts at certain fixed intervals. Thus the \$738,000,000 of four per cents might be funded into an equal amount of three or two and one-half per cent. bonds, one-fifth of which, or \$147,600,000, to mature at intervals of five years, the first installment falling due July 1, 1897, and the remaining installments of \$147,600,000 each on the first of July in the last year of each succeeding period of five years, viz., 1902, 1907, 1912, and 1917. The average maturity of these five classes of bonds would be the same as that of the present four per cents, viz, July 1, 1907.*

*While considering the question of refunding the high-rate bonds forming the principal part of the public debt into bonds bearing a lower rate of interest, and paying a premium to the holders of the former to compensate them for any disadvantage in the exchange, it is interesting to note that the English Government, by an act passed at the last session of Parliament, provided for the conversion of a large portion of its national debt bearing interest at 3 per cent. into two classes of stock, bearing interest, one at $2\frac{1}{2}$ and the other at $2\frac{1}{4}$ per cent., on the basis of a difference of 2 per cent. between the threes and the $2\frac{1}{2}$ per cent. stock, and of 8 per cent. between the threes and the $2\frac{1}{4}$ per cent. stock, this difference or bonus to accrue to the holders of the threes.

As the English Government does not appear to have a surplus revenue available to pay the difference in cash, it is added to the face of the lower rate stocks given in exchange. The act which authorizes this exchange is not compulsory, and if the conversion takes place, it will be through the voluntary action of the holders of the higher-rate stock. The Chancellor of the Exchequer, however, claims that under an old law or regulation he has compulsory power and can call some six hundred and twelve millions sterling of 3 per cent. stocks upon giving a year's notice. Although this view is disputed, it has had the effect to depreciate the 3 per cent. stock, and will no doubt have an effect in inducing holders of threes to convert on the terms offered into the new stocks.

The editor of the London Bankers' Magazine, in commenting upon the action of the Government, remarks that "the mass of threes (which it is claimed can be called) is so large, that it may very probably prove a difficult matter to deal with the whole if paid off compulsorily." Another comment is that, "had the debt of the British Government been divided into separate funds of moderate amount, the operation (of funding) would have been comparatively an easy one. As matters stand, there will probably be great difficulty in carrying the operation through."

From the foregoing it appears quite evident that the successful funding of the debt of the United States from time to time into bonds bearing lower rates of interest has attracted the favorable attention of the English Government. It is particularly to be noted that the proposed $2\frac{1}{2}$ and $2\frac{1}{4}$ per cent. stocks are to mature in 1905, that is, they are to become payable at the option of the Government at a fixed date twenty years

The surplus revenue could, by this plan, be used after July 1, 1897, and July 1, 1902, as well as after July 1, 1907, in paying the public debt; and it is believed that any disadvantage there might be to the Government in postponing the payment of one-fifth of the debt now in fours due in 1907 until after 1912, and another fifth until after 1917, would be more than offset by the benefit derived from the opportunity of paying one-fifth after 1897, and another fifth after 1902. The reduction of 1 per cent. per annum in the interest, if threes be issued, would be a direct benefit to the Government in the same manner as provided in the Aldrich bill; but while under that bill the amount of premium paid by the Government to induce the acceptance of a three per cent. bond payable in 1907 for a four per cent. bond maturing at the same date will be at a fixed rate for the total amount exchanged, it is believed that in the case of this proposition the rather larger premium that might have to be paid in exchanging threes due in 1897 and 1902 for fours of 1907 would be more than compensated by the smaller premiums paid in exchanging the threes of 1912 and 1917 for the same fours. In other words, the aggregate amount paid in premiums in exchanging bonds under the plan now suggested would probably be not more and possibly less than 15 per cent.

It is important to the success of this plan that in carrying it into practice each holder of four per cent. bonds who accepts the proposed threes in exchange should take one-fifth of the amount of his fours in each class of threes. Thus the holder of a \$500 four per cent. bond of 1907 would receive five three per cent. bonds of \$100 each, one maturing on July 1, 1897, and the remaining four on July 1, 1902, 1907, 1912, and 1917, respectively.*

Whatever course may be deemed expedient by Congress in regard to the funding or future payment of the public debt, the Comptroller is of the opinion that it is perfectly safe and will afford great benefit to the public to permit an issue by the national banks of circulation to the extent of 100 per cent. of the par value of the bonds deposited instead of 90 per cent., as under the present law, and that the present limit of issue to 90 per cent. of the paid-in capital stock should also be extended to 100 per cent. of such paid-in capital. Two of the bills

after the date of their issue, and cannot be called before that date. This is a new departure in the management of the public debt of Great Britain. The attitude of the Chancellor of the Exchequer seems to indicate that he has particularly in view the funding of our 5s and 6s into 3½ per cents in 1881. His proposed method of carrying out the act of Parliament referred to is very similar in principle to that adopted by Secretary Windom in 1881.

On October 17, 1884, being the expiration of the period under which proposals were received by the Chancellor for the conversion of the 3 per cents., the total amount of stock of private holders that had been converted was but £9,686,000, or less than 1½ per cent. of the entire 3 per cent. stock held by the public. It would appear, therefore, that the conversion of 3 per cent. English consols into stock of a lower rate of interest is not popular, although the lower-rate stocks have a minimum of twenty years to run, and notwithstanding the premium offered by the Government.

* A computation based upon the realized rate to the Government or any investor in four per cent. bonds having twenty-two years to run from July 1, 1885, at a market rate of 120 indicates that the average difference in present value between three per cent. bonds maturing at the dates mentioned and a four per cent. bond maturing in 1907 is about sixteen per cent. It is believed that the desirability of the long-time bonds for banking and trust purposes would induce the bankers and the public to make the exchange for a less difference than sixteen per cent., which is simply the mathematical difference. The history of securities put out by Governments whose credit is unquestioned shows that the long-time securities are invariably considered the most valuable, and that the premium paid for such securities is more in proportion than would naturally be indicated by a computation based upon any present realized rate of interest.

The following table has been prepared by E. B. Elliott, esq., Government actuary, in order to show the difference in value between three and four per cent. bonds ma-

already referred to as introduced at the last session of Congress contained these provisions. Even admitting that the bonds representing the public debt when funded at lower rates might at times in the future be below par in the market, the Government would, if forced to redeem the notes of insolvent national banks, always have the right to cancel the bonds on deposit securing the same, and thus extinguish an amount of its debt equal dollar for dollar to the notes redeemed. It would also gain from such notes as are never presented for redemption, which form a certain percentage in the case of the circulation of each and every bank, and taking all banks together would form a large reserve fund. Tables in relation to this gain may be found in the Appendix.

It is further submitted that the profit on circulation may be increased to a point which will induce the banks to keep up their circulation to a maximum, and stop the contraction of their circulation which is now occurring, by repealing the law taxing such circulation at the rate of one-half of 1 per cent. semi-annually. This tax is regarded by many as only a fair bonus to the Government for the privilege of issuing circulation which the banks receive from it, and in times when the Government needed the money and when the profit on circulation was comparatively great this view had much in its favor. But under existing circumstances* the Government should in justice either enact laws

turing at the periods mentioned, computing on a basis of the realized rate to the Government at 1.20 for four per. cent. bonds having twenty-two years to run:

Year.	Fours.	Threes.	Difference.
1897	1.20	1.0222	.1778
1902		1.0295	.1705
1907		1.0359	.1641
1912		1.0474	.1586
1917		1.0462	.1538

* The following table shows the annual per centage of profits on circulation, at rates of interest for bank loans from 5 to 8 per cent., based on 4 per cent. bonds of 1907, having twenty-two and a half years to run, the average market price for the year being 1.215529, and based on 4½ per cent. bonds having seven years to run, the average market price for the year being 1.127131. There are three rates of profit shown on each class of bonds, each derived by a different method of computation. The method by which the first figures in each case are obtained assumes that the premium paid would be made up by a sinking fund at compound interest, and also that the 5 per cent. redemption fund which banks are required to keep is no charge on circulation account.

The second figures are obtained assuming a sinking fund similar to that in the first method, but that the 5 per cent. fund is a charge on circulation account, and reduces the loanable circulation.

The third figures are obtained by a method which assumes that the premium is reduced by charging off an equal proportion each year, according to the time the bonds have to run, and that the 5 per cent. fund is no charge on circulation. The figures generally show that under average conditions a national bank issuing circulation, based on either 4 or 4½ per cent. bonds, at ordinary rates of interest for bank loans, receives an average profit of not more than one-half of 1 per cent.

Classes of bonds.		Profit with loans at 5 per cent.	Profit with loans at 6 per cent.	Profit with loans at 7 per cent.	Profit with loans at 8 per cent.
Fours of 1907	{ 1	.00781	.00590	.00380	.00162
	{ 2	.00596	.00368	.00121	.00000
	{ 3	.00439	.00180	.00000	.00000
Four and a half of 1891	{ 1	.00803	.00650	.00480	.00337
	{ 2	.00604	.00410	.00215	.00018
	{ 3	.00548	.00350	.00145	.00000

which will make the issue of circulation a real privilege, or it should remove the tax, which under present laws is fast becoming prohibitory. As it now stands, the Government is exacting a bonus for a privilege which no longer exists, and the inevitable consequence of the continued collection of the tax without measures of relief in other directions will be the gradual retirement of this form of circulating medium.

The expenses of keeping up the national banking system by the Government are at present paid in part from the proceeds of this tax and in part by assessment on the banks. If the tax be abolished, all of these expenses should be paid by the last-named method. Under the head of "Taxation," on page 65, will be found a detailed statement of the amount received from the tax on circulation and of the very small proportion used in payment of expenses of the Government in keeping up the system.

In concluding this subject the Comptroller wishes to have it distinctly understood that he is not in favor of any measure which will cause inflation. He is of the opinion that the present aggregate paper circulation, made up of legal-tender and national bank-notes and of gold and silver certificates, is ample for all the needs of business. He believes, however, that the sudden contraction of national-bank circulation, which without appropriate legislation is imminent, will seriously embarrass the business of the country, and that if this contraction is permitted to go on, it may result in the entire discontinuance of the issue of notes by national banks. The Comptroller believes that this form of currency, which can be increased or diminished in accordance with the natural laws which control business, should be continued in preference to any other now permitted by law. If at any time the aggregate of outstanding paper becomes too great, reduction should be made by retiring the direct issues of the Government, in view of the fact that the most eminent authorities in finance agree that such direct issues are in the long run highly detrimental and fraught with danger. A bank circulation as well secured and convenient as that of the banks in the national system, with a credit so deservedly well established in the minds of the people, should not be permitted to go out of existence.

CIRCULATION BASED ON SILVER.

Notwithstanding the fact that the national banking circulation of the country has been reduced about 24 millions during the past year, on account of the redemption and payment of the 3 per cent. United States bonds, held as security for the same, and is likely to continue to be reduced as the debt is paid, the circulating medium of the country has been increased by the issuance of silver certificates under the act of February 28, 1878, these certificates being issued upon standard silver dollars, of which at least 2 millions are coined every month of the year.

The perplexities of bimetallism and the silver question have attracted attention and interested the public for many years. Statistics have been worn threadbare, and the number of articles and essays that have been written on this subject are of almost interminable extent. The law making it mandatory on the Secretary of the Treasury to coin each month 2 millions of what are called standard silver dollars, or, in other words, the stamping of 2 million pieces of silver of 412½ grains in weight each as a dollar, no doubt was intended to appreciate the price of silver and to bring this precious metal into more general use as money. As the production of silver in the United States is so

large, the Government should do all in its power to sustain the value of silver and promote its circulation as money by appropriate legislation, but it is submitted that the operation of the present law defeats the object in view.

The exact relative position of silver to gold in the commercial world is extremely difficult to determine. No one can gainsay the fact that in our commercial relations with England and other countries we must settle our exchanges upon a gold basis. This being true, necessarily, we can use silver in settlement of international balances only at its market price. This market price tests the proportionate value of silver as compared with gold. The present market price of silver throughout the world shows that the intrinsic value of a dollar weighing 412½ grains is about 85.20 cents. The law, therefore, which compels the coinage of 2 millions of standard silver dollars per month is an arbitrary attempt to make the price of silver more dear by fixing a ratio between gold and silver for the people of this country different from the ratio fixed by the market price, making the standard silver dollar practically a depreciated currency as compared with the gold coin of the country, and with the legal-tender and national-bank notes, which are redeemable in gold at par. It has been and still is contended by many that if the United States as a nation takes strong ground in favor of bimetallism and insists upon the recognition of silver as money, valued in proportion to gold at the ratio of 15½ to 1, that its comparative market value can be increased.

The practical working of the silver bill seems to prove the folly of this position. For some reason or other the intrinsic value of silver has decreased in a greater proportion than that of gold. This reason is exceedingly difficult to determine. In fact it is next to impossible to obtain the data and draw the deductions to ascertain the reason why the changes in the ratio or proportion of the value of gold to that of silver have invariably throughout the world been against silver. Some statisticians assert that the annual increase of gold throughout the world is at least 1½ per cent. of the world's total stock of gold money, while as to silver it is claimed the increase is only about 1 per cent. of the total stock of silver money.* If this calculation is correct, some other reasons than those based on the proportionate production of gold and silver must be brought forward to prove that the increased production of silver over gold has depreciated the value of the former, for there is no question but that the purchasing power of silver, in proportion to the purchasing power of gold, has steadily decreased for more than a thousand years. Perhaps one reason for this depreciation in value is the inconvenience of silver as a circulating medium as compared with gold. It is proportionately to value about fifteen and a half times as heavy and nearly twenty-eight and a half times as bulky.

Whether its weight and bulk be the cause or not, the fact is undoubted that in this age of the civilized world the people have a strong distaste to the use of silver as a circulating medium in the form of coins weighing four hundred grains or more.

The law which stamps 412½ grains of silver and arbitrarily insists upon its circulation as a dollar, *with unlimited legal-tender qualities*, when its true value as indicated by the market price of silver is but 85.2 cents, is unworthy of this nation, and will sooner or later bring upon us financial trouble and disgrace. The practical working of the silver coinage act has established the fact that the public do not

*Mr. S. Dana Horton.

readily accept, circulate, and do business with these standard silver dollars. In order to insist upon the arbitrary value which has been fixed upon silver by law, Congress has ingeniously arranged to permit the people to deposit their inconvenient silver coins in the Treasury of the United States and obtain therefor certificates which represent a certain number of these dollars. These certificates, being a convenient circulating medium, were first used for shipments from commercial centers to the South and West for the purpose of supplying currency for moving the crops. As legal-tender and national-bank notes are frequently in limited supply during the fall months, the convenience of obtaining these certificates and thereby saving express charges on gold which would otherwise have to be shipped has caused the circulation of many millions among the people of the country.* The public, who daily receive and disburse these certificates, hardly realize that the intrinsic value of the silver which is represented by a \$10 silver certificate is but \$8.52; neither do they realize that the certificate is not a promise to pay on the part of the United States, but simply a promise to return to the bearer ten 412½-grain silver dollars.

If it is for the best interests of the United States to issue a circulation based upon silver, the Comptroller believes that the circulation should be issued upon coin or bullion which contains a sufficient number of grains of silver to have an intrinsic value equal in the markets of the world to its nominal value.

Some writers have suggested that a circulating medium might be based upon bullion, both gold and silver, and the Comptroller is of the opinion that under certain restrictions and regulations it would be far more correct in principle to issue silver certificates based upon a deposit of silver bullion, to be valued in the exact proportion of silver to gold, than to continue the issue of certificates under the present law. If this were done, silver bars might be stamped at their market value and held in the Treasury for the redemption of the certificates, which should call an amount of silver equal in value to their nominal or face value expressed in gold. The bullion represented by certificates should be periodically valued at its market price in gold, and a certain proportionate amount of silver so held might, perhaps, be coined to provide the means for redemption of the certificates, if redemption was desired for business purposes. These dollars should be in the nature of a subsidiary coin and should be reconvertible into bullion certificates.

The actual circulation of the silver dollar under the present law indicates that the necessary number of coins required probably would not exceed \$50,000,000. This plan might possibly bring about a loss to the Government by the depreciation of silver, which loss, however, would be partially borne by the certificates which were lost and destroyed, as it is well known that from the loss and destruction of legal tenders and national bank notes the Government is even now a large gainer. The Comptroller believes that the use of silver as money in this manner, and its periodical valuation, would have more influence in appreciating the market value of silver among the nations of the world than the present arbitrary coinage of 412½ grains of silver as a dollar.*

* From information derived from the Treasurer of the United States, it is found that silver certificates issued at the subtreasuries in the west and south, on deposits of gold coin with the Assistant Treasurer of the United States at New York from September 18, 1880, to October 31, 1884, amounted to \$69,625,500.

* Considering the strong ground taken against bimetallism by the British Government, apparently for the reason that it is difficult to ascertain the intrinsic value of silver as compared with gold, it is interesting to note that the Chancellor of the Exchequer, Mr. Childers, in his budget speech of the 24th of April, proposed, in order

These reflections are upon the theory held by many, that it is for the best interests of this country to maintain a circulation based upon silver. The Comptroller doubts the correctness of this theory; but it is submitted that the circulation now outstanding based on silver is a depreciated currency, by the issue of which the Government has gained at the expense of the people who now hold the silver dollars and certificates, and that therefore it is incumbent on the Government, if it continues to issue circulation based upon silver, to do so under a plan which will not only provide a sound circulation for the future, but also prevent the holders of the present certificates and dollars from sustaining loss. This might all be accomplished by exchanging the bullion certificates suggested for the silver-dollar certificates now outstanding.

The issue of currency based upon silver should not, however, be unlimited, and the present laws making the purchase and coinage of a fixed amount of silver bullion mandatory are very pernicious in their effect, as the unlimited and continued issuance of *full legal-tender* silver coin and certificates based thereon, of intrinsic value less than their face, has already caused the hoarding of gold, and will eventually drive it from the channels of trade, thereby causing a practical suspension of gold payments. There are many indications of this, notably the uneasiness in financial circles in June and July last, caused by the reserve of gold in the Treasury falling so near to the point at which under the law the issuance of gold certificates ceases. It is also to be observed that during the present year the national banks throughout the country have increased their holdings of gold, including certificates, in the sum of \$19,615,350.

The amount of silver bullion purchased by the Government under the act of February 28, 1878, for coinage into standard silver dollars was, from the 1st of July, 1878, to the 1st of July, 1884, 144,366,242.43 standard ounces, costing \$146,631,495.26. The number of silver dollars coined under the provisions of the act of February 28, 1878, up to November 1, 1884, amount to 184,730,829. The profits to the Government on the coinage of silver from July 1, 1878, to June 30, 1884, amount to \$20,972,913.52.* Of the silver dollars coined \$142,926,725 remain in the Treasury of the United States, leaving in circulation \$41,804,104.

Silver certificates have been issued, which are represented by the standard silver dollars in the Treasury of the United States, to the amount of \$131,556,531. Of the silver certificates so issued \$30,814,970 remain in the Treasury of the United States, leaving \$100,471,561 of these certificates in circulation. It will be seen, therefore, that of the total amount of silver dollars coined but \$41,804,104 are in actual circulation, and that the people of the United States now hold a paper circulation based upon silver dollars in an amount equal to more than one-third of the national-bank circulation.

to restore the gold coinage of England to its nominal value, to issue a depreciated half sovereign. In other words Mr. Childers's plan is that the Government shall issue to the people a half sovereign containing only nine-tenths of the amount of gold at present contained in that coin, rather than have the Government bear the loss of the recoinage of the outstanding sovereigns and half sovereigns which are known to be light. This new half-sovereign is to be *legal tender to the amount of £5 only*, but it seems a noticeable fact that the Chancellor of the Exchequer should submit in his annual budget a proposition to debase one of the gold coins of the United Kingdom, a country which has heretofore been so particular as to its money standards. Although it is not proposed to change the intrinsic value of the sovereign, this alteration of the value of the half-sovereign would no doubt have the effect of discrediting the gold coinage of England, which has for many years been recognized throughout the world as an almost infallible standard of value.

* These figures have been obtained from the honorable Director of the Mint.

DISTRIBUTION OF COIN AND PAPER CURRENCY.

In previous reports tables have been given showing the amount of coin and currency in the country and its distribution in the Treasury, in the banks, and among the people, on January 1, 1879, the date of the resumption of specie payments, and on November 1 of each of the last four years preceding the date of the report. These tables are again presented, the amounts on November 1, 1880, being omitted, while those on November 1, 1884, are added.

The amounts of gold and silver in the country available for circulation are based upon the estimates of the Director of the Mint for January 1, 1879. The amounts of gold for the succeeding dates have been obtained by adding the gold production of the country, less the amounts used in the arts, from estimates of the same officer, adding the excess of gold importations during the year, or deducting the excess of gold exportations for the same period, according to the reports of the Bureau of Statistics. The amounts of silver are obtained by adding for each year the amount of silver dollars and fractional coinage, less amounts recoinced. For the year 1884 the silver bullion purchased by the Government for coinage and on hand on November 1 is included.

From November 1, 1883, to November 1, 1884, the production of gold by the mines of the United States is estimated to have been about \$29,000,000. During the period from November 1, 1883, to October 1, 1884, the amount of gold, foreign and domestic gold coin and bullion exported in excess of the amount imported has been \$20,483,382, making an increase in the stock of gold in the country of \$8,516,618. From this amount must be deducted the amount used in the arts during the same period (\$4,875,000), leaving \$3,641,618 as the increase in the stock of gold coin and bullion in the country.

The total excess of imports of gold over exports of the same from the date of resumption to October 1, 1884, has been \$165,712,128, and the total estimated gold product of the mines of the United States for the same period has been about \$191,725,000. The total amount of silver coined during the year has been, after deducting the recoinage, \$28,387,010, of which \$28,009,880 were standard silver dollars. The total amount of the latter coined since the passage of the act of February 28, 1878, authorizing that coinage, up to November 1, 1884, has been \$184,730,829.

The following table, based upon the estimates and figures given above, shows the amount of coin and currency in the country on January 1, 1879, and on November 1 of the years named:

	January 1, 1879.	November 1, 1881.	November 1, 1882.	November 1, 1883.	November 1, 1884.
Gold coin and bullion	\$278, 310, 126	\$550, 922, 398	\$547, 356, 262	\$581, 970, 254	\$585, 611, 872
Silver coin	106, 573, 803	181, 476, 144	208, 744, 424	242, 701, 932	275, 735, 439
Legal-tender notes	346, 681, 016	346, 681, 016	346, 681, 016	346, 681, 016	346, 681, 016
National-bank notes.....	323, 791, 674	360, 344, 250	362, 727, 747	852, 013, 787	*833, 559, 813
Totals.....	1, 055, 350, 619	1, 439, 423, 808	1, 465, 509, 449	1, 523, 366, 989	1, 541, 588, 140

* The sum of \$41,710,163 in lawful money has been deposited by the national banks to retire circulation of a like amount which has not yet been presented for redemption.

There has been no change in the aggregate of legal-tender notes outstanding, which still remains as fixed by the act of May 31, 1878. National-bank notes have decreased \$18,453,974 during the year; the

amounts of gold and silver have increased \$3,641,618, and \$33,033,507, respectively, making the total increase during the year in gold, silver, and currency, \$18,221,151.

The table below gives the portion of the gold, silver, and currency held by the United States Treasury and by the national and State banks. The amounts in the United States Treasury are for the corresponding dates with those in the preceding table. The amounts in the national banks are for the corresponding dates nearest thereto on which returns were made to the Comptroller, viz: January 1, 1879; October 1, 1881; October 3, 1882; October 2, 1883; and September 30, 1884. The amounts in the State banks, trust companies, and savings banks have been compiled in this office from official reports for the nearest obtainable dates.

	January 1, 1879.	November 1, 1881.	November 1, 1882.	November 1, 1883.	November 1, 1884.
GOLD.					
In the Treasury, less certificates	\$112,703,342	\$167,781,909	\$148,435,473	\$157,853,760	\$134,670,790
In national banks, including certificates	35,039,201	107,222,169	94,127,824	97,570,057	117,185,407
In State banks, including certificates	10,937,812	19,901,491	17,892,500	18,255,300	25,928,757
Total gold.....	158,680,355	294,905,569	260,455,297	273,179,117	277,784,954
SILVER.					
In the Treasury, standard silver dollars	17,249,740	66,576,378	92,414,977	116,036,450	142,926,725
In the Treasury, bullion	9,121,417	3,424,575	4,012,503	4,036,365	4,646,497
In the Treasury, fractional coin	6,048,194	25,984,687	26,749,482	26,712,424	29,344,757
In national banks	6,460,557	7,112,567	8,234,739	10,247,926	8,092,557
Total silver	38,879,908	103,098,207	131,411,701	157,933,165	185,012,536
CURRENCY.					
In the Treasury, less certificates	44,425,655	22,774,830	26,224,248	30,996,217	26,258,827
In national banks, including certificates	126,491,720	77,630,917	92,544,767	103,316,809	114,507,113
In State banks, including certificates	25,944,485	27,391,317	27,086,482	28,259,062	32,659,635
In savings banks	14,513,779	11,782,243	14,724,978	12,998,594	14,079,452
Total currency.....	211,375,639	139,579,307	160,580,475	175,570,682	187,501,997
Grand totals	408,935,902	537,583,083	552,447,473	606,682,964	650,302,487

If the aggregates of gold, silver, and currency for the several dates in the above table be deducted from the amounts of the same items at corresponding dates in the table which precedes it, the remainders will be, approximately, the amounts in the hands of the people at corresponding dates.

	January 1, 1879.	November 1, 1881.	November 1, 1882.	November 1, 1883.	November 1, 1884.
Gold	\$119,629,771	\$256,016,829	\$286,900,965	\$308,791,137	\$307,826,918
Silver	67,693,895	78,377,937	77,332,723	84,768,767	90,722,903
Currency.....	459,097,051	567,445,959	548,828,288	523,124,121	492,735,832
Total.....	646,420,717	901,840,725	913,061,976	916,684,025	891,285,653

The gold in the Treasury, including bullion in the process of coinage, has decreased during the year \$22,682,970, and in the banks has increased \$27,288,807. The paper currency in the Treasury has decreased \$4,737,390, and in the banks has increased \$16,671,605. The decrease of gold outside of the Treasury and the banks has been \$964,219, and of silver coin \$5,954,136, and the decrease of paper currency exclusive of silver certificates, \$30,388,289. In the foregoing tables the silver certificates issued by the Treasury have not been included, but the standard silver dollars held for their redemption on presentation form a portion of the silver coin in the Treasury. The silver certificates in the hands of the people and the banks at the following dates were as follows:

January 1, 1879	\$413,360
November 1, 1880	19,780,240
November 1, 1881	56,838,770
November 1, 1882	65,620,450
November 1, 1883	85,334,381
November 1, 1884	100,741,562

It will be seen that the amount of these certificates in circulation has increased \$15,407,180 during the year 1884.

The gold certificates issued under section 12 of the act of July 12, 1882, outstanding in the hands of the people and banks on November 1, 1882, November 1, 1883, and November 1, 1884, not including the amount in the Treasury, were \$6,962,280, \$48,869,940, and \$85,301,190, respectively.

As before stated, the total amount of standard silver dollars coined up to November 1, 1884, was \$184,730,829, of which, as shown in one of the foregoing tables, \$142,926,726 was then in the Treasury, although an amount equal to \$100,741,561 was represented by certificates in the hands of the people and the banks, leaving \$42,185,165 then held by the Treasury. Of the \$184,730,829 coined, \$41,804,103 was therefore evidently outside of the Treasury, and \$100,741,561 of the amount in the Treasury was represented by certificates in circulation. The remainder of the silver, \$91,004,610, consisted of subsidiary coin, trade dollars, and bullion purchased for coinage, of which \$33,993,284 was in the Treasury, and about \$57,011,326 was in use with the people and the banks, consisting principally of subsidiary coin, in the place of the paper fractional currency for which it was substituted.

The increase of gold and silver coin and paper currency, exclusive of silver certificates, outside of the Treasury and the banks, since the date of resumption, is thus estimated to have been \$263,956,936, and the decrease during the year ending November 1, 1883, \$6,306,372. To these sums the amounts of silver certificates in the hands of the people may be added. On November 1, 1883, the amount of these certificates held by the people and the banks was, as has been seen, \$100,741,561; but the proportion of this amount in the hands of the people cannot be exactly determined.

**SPECIE IN BANK AND IN THE TREASURY OF THE UNITED STATES, AND
ESTIMATED AMOUNT IN THE COUNTRY—SPECIE IN THE BANK OF
ENGLAND AND IN THE BANK OF FRANCE.**

The following table exhibits the amounts of specie held by the national banks at the dates of their reports for the last eleven years, the

coin and coin certificates held by the New York City banks being stated separately:

Date.	Held by national banks in New York City.				Held by other national banks.	Aggregate.
	Coin.	U. S. coin certificates.	Clearing-house certificates.	Total.		
Sept. 12, 1873..	\$1,852,574 38	\$12,522,980	.....	\$14,375,560	\$1,222,822 28	\$15,598,382 66
Dec. 31, 1873..	1,872,171 58	12,522,750	.....	14,394,921 58	1,222,822 28	15,617,743 86
Feb. 27, 1874..	1,867,623 86	12,512,600	.....	14,380,223 86	1,222,822 28	15,603,046 14
May 1, 1874..	1,532,254 14	12,454,000	.....	13,986,254 14	1,222,822 28	15,209,076 42
June 30, 1874..	1,472,535 30	12,471,000	.....	13,943,535 30	1,222,822 28	15,166,357 58
Oct. 1, 1874..	1,477,745 58	12,414,400	.....	13,892,155 58	1,222,822 28	15,114,977 86
Dec. 31, 1874..	1,442,215 62	12,411,900	.....	13,854,126 62	1,222,822 28	15,076,948 90
Mar. 1, 1875..	1,424,535 54	11,922,100	.....	13,346,635 54	1,222,822 28	14,569,457 82
May 1, 1875..	807,135 76	5,752,100	.....	6,559,235 76	1,222,822 28	7,782,058 04
June 30, 1875..	1,412,635 76	12,041,700	.....	13,454,335 76	1,222,822 28	14,677,158 04
Oct. 1, 1875..	732,844 80	4,221,700	.....	4,954,544 80	1,222,822 28	6,177,367 08
Dec. 17, 1875..	899,422 72	12,522,900	.....	13,422,322 72	1,222,822 28	14,645,145 00
Mar. 10, 1876..	2,261,131 58	19,138,900	.....	21,400,031 58	1,222,822 28	22,622,853 86
May 12, 1876..	822,313 72	15,124,700	.....	15,947,013 72	1,222,822 28	17,169,836 00
June 30, 1876..	1,214,522 92	16,772,700	.....	17,987,222 92	1,222,822 28	19,210,045 20
Oct. 2, 1876..	1,192,814 34	13,446,700	.....	14,639,514 34	1,222,822 28	15,862,336 62
Dec. 22, 1876..	1,434,701 23	21,602,900	.....	23,037,601 23	1,222,822 28	24,260,423 51
Jan. 30, 1877..	1,002,244 94	31,029,000	.....	32,031,244 94	1,222,822 28	33,254,067 22
Apr. 14, 1877..	1,631,725 50	13,889,100	.....	15,520,825 50	1,222,822 28	16,743,647 78
June 22, 1877..	1,422,258 17	10,324,700	.....	11,746,958 17	9,542,411 76	21,289,369 93
Oct. 1, 1877..	1,538,426 47	11,409,900	.....	12,948,326 47	9,542,411 76	22,490,738 23
Dec. 28, 1877..	1,955,746 20	19,119,600	.....	21,075,346 20	11,725,221 28	32,800,567 48
Mar. 15, 1878..	2,428,797 44	35,003,100	.....	37,431,917 44	17,392,221 28	54,824,138 72
May 1, 1878..	2,688,052 08	25,307,640	.....	27,995,692 08	17,392,221 28	45,387,913 36
June 29, 1878..	1,905,705 32	11,954,500	.....	13,860,205 32	17,392,221 28	31,252,426 60
Oct. 1, 1878..	1,779,792 43	11,514,810	.....	13,294,602 43	17,392,221 28	30,686,823 71
Dec. 6, 1878..	4,009,296 01	12,277,100	.....	16,286,396 01	18,062,711 35	34,349,107 36
Jan. 1, 1879..	5,421,552 49	12,739,544	.....	18,161,092 49	23,328,064 28	41,489,156 77
Apr. 4, 1879..	5,312,966 90	12,220,940	.....	17,533,906 90	23,814,656 51	41,348,563 41
June 14, 1879..	6,058,472 34	12,591,270	.....	18,649,742 34	23,922,545 10	42,572,287 44
Oct. 2, 1879..	7,218,967 69	12,130,900	.....	19,349,867 69	23,823,723 54	43,173,591 23
Dec. 12, 1879..	20,056,249 64	8,366,140	\$21,569,000 00	50,031,349 64	28,921,651 95	78,952,991 59
Feb. 21, 1880..	12,252,541 44	7,461,650	33,855,000 00	55,572,191 44	33,869,860 31	89,442,051 75
Apr. 23, 1880..	12,595,729 49	6,914,250	25,458,000 00	44,967,979 49	41,461,761 72	86,429,741 21
June 11, 1880..	16,682,226 40	7,810,200	33,337,000 00	57,829,426 40	41,677,078 26	99,506,504 66
Oct. 1, 1880..	16,104,555 28	7,489,700	36,189,000 00	59,783,255 28	49,562,954 11	109,346,209 39
Dec. 31, 1880..	19,773,859 01	6,709,900	28,246,000 00	54,729,759 01	52,443,141 91	107,172,900 92
Mar. 11, 1881..	15,924,683 90	4,825,300	30,809,000 00	51,558,983 90	53,597,211 33	105,156,195 23
May 6, 1881..	28,242,108 60	4,625,900	34,176,000 00	65,044,008 60	57,584,553 48	122,628,562 08
June 30, 1881..	20,822,790 87	4,513,400	41,858,000 00	67,194,190 87	61,444,736 63	128,638,927 50
Oct. 1, 1881..	15,317,168 04	4,486,600	31,721,000 00	51,524,768 04	62,809,968 08	114,334,736 12
Dec. 31, 1881..	16,352,630 49	4,037,600	33,852,000 00	54,242,230 49	59,438,400 11	113,680,630 60
Mar. 11, 1882..	17,093,447 39	4,075,800	29,907,000 00	51,076,247 39	58,907,863 65	109,984,111 04
May 19, 1882..	15,541,956 93	4,034,300	31,783,000 00	51,359,256 93	61,056,549 80	112,415,806 73
July 1, 1882..	14,278,290 77	4,005,100	32,854,000 00	51,137,390 77	60,556,871 77	111,694,262 54
Oct. 3, 1882..	14,391,783 74	3,908,100	26,224,000 00	44,523,883 74	58,333,804 53	102,857,688 27
Dec. 30, 1882..	10,811,728 69	17,720,100	22,020,000 00	50,551,828 69	55,875,832 71	106,427,660 40
Mar. 13, 1883..	10,060,551 05	10,813,320	21,818,000 00	42,691,871 05	55,270,495 29	97,962,366 34
May 1, 1883..	9,891,636 15	16,094,210	21,334,000 00	47,319,846 15	56,287,420 17	103,607,266 32
June 22, 1883..	8,219,744 22	26,477,760	22,139,000 00	56,836,504 22	58,517,890 40	115,354,394 62
Oct. 2, 1883..	9,388,073 82	20,541,100	20,345,000 00	50,274,173 82	57,543,800 71	107,817,973 53
Dec. 31, 1883..	10,793,481 17	20,525,270	21,693,000 00	53,011,751 17	61,274,406 87	114,286,158 04
Mar. 7, 1884..	12,948,092 34	21,582,060	25,912,000 00	60,442,152 34	62,637,974 90	123,080,127 24
Apr. 24, 1884..	8,920,064 27	20,093,380	20,527,000 00	49,540,444 27	65,195,262 82	114,735,707 09
June 20, 1884..	7,446,696 82	20,397,590	15,690,000 00	43,534,286 82	66,127,395 29	109,661,682 11
Sept. 30, 1884..	7,296,178 39	40,765,140	15,052,000 00	63,113,318 39	65,496,156 34	128,609,474 73

The national banks held silver coin amounting on October 1, 1877, to \$3,700,703, and on October 1, 1878, to \$5,392,628. On October 2, 1879, the amount held was \$4,986,493, on October 1, 1880 it was \$6,495,477, including \$1,165,120 in silver Treasury certificates; on October 1, 1881, it was \$7,112,567.18, including \$1,662,180 of silver certificates; on October 3, 1882, it was \$8,273,815, including \$1,807,600 of silver certificates; on October 2, 1883, it was \$10,247,926, including \$2,653,030 of silver certificates; and on September 30, 1884, it was \$11,424,067, including \$3,331,510 of silver certificates.

The latest official reports of the State banks in New England, New York, Pennsylvania, Maryland, Georgia, Texas, Ohio, Indiana, Michigan, Wisconsin, Missouri, and the Territory of Montana show that these banks held specie amounting to \$14,834,133, of which the banks in New York City held \$10,506,059.

The official returns from the State banks of California do not give separately the amount of coin held by them, but it is estimated that the total cash reported, amounting to \$10,542,432, consisted almost entirely of coin. The amount of coin held by State banks in the States before mentioned, including California, was, therefore, \$25,376,565.

The Director of the Mint, in his report for 1882, estimated the amount of coin in the country on June 30, 1882, at \$700,455,545, of which \$500,862,185 was gold and \$199,573,360 was silver.

His estimate for the fiscal year ending June 30, 1884, is as follows:

United States coin.	Gold.	Silver	Totals.
Circulation July 1, 1883.....	\$537, 254, 794	\$228, 216, 199	\$765, 470, 993
Year's coinage.....	27, 932, 824	28, 773, 888	56, 706, 712
Totals.....	565, 187, 618	256, 990, 087	822, 177, 705
Less net exports.....	8, 417, 059	4, 199	8, 421, 258
Deposits for recoinage.....	268, 117	182, 031	450, 148
Used in the arts.....	4, 875, 000	218, 000	5, 093, 000
Trade dollars withdrawn from circulation.....		6, 000, 000	6, 000, 000
Total loss.....	13, 555, 176	6, 372, 230	19, 927, 406
Circulation July 1, 1884.....	551, 632, 442	250, 617, 357	802, 249, 799
Net gain during the year.....	14, 877, 648	22, 401, 158	37, 278, 806

From July 1, 1884, to October 1, 1884, there has been added to the coin \$5,955,999 of gold and \$6,582,350 of silver, making the stock of coin in the country at the latter date \$814,788,148, of which \$557,588,441 was gold and \$257,199,707 was silver.

The amount of bullion in the mint and in the New York assay office on October 1, 1884, is stated to have been \$52,950,000 of gold and \$4,935,000 of silver, making in all \$57,885,000, which, added to the amount of coin stated above, gives \$872,673,148, of which amount \$610,538,441 was gold and \$262,134,707 was silver.

The following table shows the amount of gold and silver, including the amount held to protect gold and silver certificates, and the percentage of each, in the Treasury of the United States, on September 30 of each year from 1876 to 1884, and on November 1, 1884:

Period.	Silver.			Gold coin and bullion.	Total coin and bullion.	Per cent of—	
	Standard dollars.	Other coin and bullion.	Total silver.			Silver.	Gold
Sept. 30, 1876.....		\$0, 029, 387	\$0, 029, 387	\$53, 423, 069	\$53, 452, 426	9.8	90.2
Sept. 30, 1877.....		7, 423, 454	7, 423, 454	107, 039, 529	114, 464, 983	9.5	90.5
Sept. 30, 1878.....	\$12, 155, 206	15, 777, 937	27, 933, 142	136, 036, 302	163, 969, 444	17.0	83.0
Sept. 30, 1879.....	31, 806, 774	31, 178, 023	62, 984, 797	169, 827, 571	232, 812, 368	23.2	76.8
Sept. 30, 1880.....	47, 754, 744	30, 878, 226	78, 632, 970	175, 641, 450	254, 304, 420	26.9	73.1
Sept. 30, 1881.....	66, 092, 067	28, 945, 207	95, 037, 274	174, 361, 243	269, 398, 517	35.3	64.7
Sept. 30, 1882.....	92, 228, 649	30, 769, 706	122, 998, 355	152, 739, 106	275, 737, 460	44.6	55.4
Sept. 30, 1883.....	114, 567, 372	31, 838, 072	146, 405, 444	206, 130, 541	352, 535, 985	41.5	58.5
Sept. 30, 1884.....	142, 058, 787	34, 408, 568	176, 467, 355	217, 904, 043	394, 371, 398	44.7	55.3
Nov. 1, 1884.....	142, 936, 726	33, 993, 254	176, 930, 979	222, 530, 860	400, 461, 839	44.2	55.8

The bullion in the Bank of England for each year from 1870 to 1884 is shown in the following table, the pound sterling being estimated at five dollars:

1870.....	\$103,900,000	1872.....	\$119,200,000
1871.....	117,950,000	1879*.....	150,942,980
1872.....	112,900,000	1880†.....	141,637,000
1873.....	113,500,000	1881†.....	115,221,870
1874.....	111,450,000	1882†.....	102,629,912
1875.....	119,600,000	1883†.....	121,779,545
1876.....	143,500,000	1884‡.....	99,161,045
1877.....	126,850,000		

Below is a similar table, giving the amount of gold and silver, and the percentage of each, in the Bank of France, on December 31 of each year; from 1870 to 1882, on November 1, 1883, and on October 30, 1884, five francs being estimated at one dollar:

Years.	Silver coin and bullion.	Gold coin and bullion.	Total.	Per cent. of—	
				Silver.	Gold.
December 31, 1870.....	\$13,700,000	\$85,740,000	\$99,440,000	12.8	86.2
December 31, 1871.....	16,240,000	110,680,000	126,920,000	12.8	87.2
December 31, 1872.....	26,320,000	131,740,000	158,060,000	16.2	83.2
December 31, 1873.....	31,260,000	122,200,000	153,520,000	20.4	79.6
December 31, 1874.....	62,640,000	204,220,000	266,860,000	23.5	76.5
December 31, 1875.....	101,000,000	234,880,000	335,880,000	30.1	69.9
December 31, 1876.....	127,720,000	306,080,000	433,800,000	29.4	70.6
December 31, 1877.....	178,080,000	235,420,000	408,500,000	42.4	57.6
December 31, 1878.....	211,620,000	196,720,000	408,340,000	51.8	48.2
December 31, 1879.....	245,520,000	148,320,000	393,840,000	62.3	37.7
December 31, 1880.....	244,380,000	110,480,000	354,840,000	68.9	31.1
December 31, 1881.....	231,180,000	129,160,000	360,340,000	64.2	35.8
December 31, 1882.....	216,553,000	190,981,300	407,594,000	53.1	46.9
November 1, 1883.....	203,085,000	192,112,000	395,597,000	51.3	48.7
October 30, 1884.....	205,837,862	210,927,912	416,765,774	49.4	50.6

AMOUNT OF INTEREST-BEARING FUNDED DEBT IN THE UNITED STATES AND THE AMOUNT HELD BY NATIONAL BANKS.

The public debt reached its maximum on August 31, 1865, at which time it amounted to \$2,845,907,626. More than 1,275 millions of this debt were in temporary obligations of the Government, of which 830 millions bore interest at 7.30 per cent. per annum. The average rate of interest on 1,725 millions of the debt at that date was 6.62 per cent. This large amount of temporary obligations was funded within the three years which followed the close of the war, chiefly into 6 per cent. bonds. The 6 per cent. bonds were gradually reduced during the year 1869 and the seven years following by payment and refunding into 5 per cents. The 6 per cents, together with the 5 per cents, were subsequently rapidly replaced by 4½ and 4 per cent. bonds, which were authorized to be issued by the act of July 14, 1870. In the year 1881 all of the un-

* London Economist, November 8, 1879.

† London Bankers' Magazine, October, 1880, 1881, and 1882.

‡ London Economist, November 1, 1884.

§ The Bulletin de Statistique, as quoted in the Bankers' Magazine, New York, vol. xiii, page 740; except the items for 1879-'80 and '81, which were obtained from the London Bankers' Magazine for August, 1880, page 661, September, 1881, page 716, and September, 1882, page 739, and the three last items from L'Économiste Français, November 3, 1883, and November 1, 1884.

redeemed 5 and 6 per cent. bonds, amounting to \$579,560,050, were continued payable at the pleasure of the Government, with interest at $3\frac{1}{2}$ per cent., by agreement with the holders. The act of July 12, 1882, authorized the refunding of the three and one-halves into three per cents, and since its passage all of these bonds have been converted into three per cents. The Secretary, during the year ending November 1, called for payment nearly \$111,338,500 of the threes.

The report for 1879 and subsequent reports contain tables exhibiting the classification of the unmatured interest-bearing bonded debt of the United States, and of the bonds held by the national banks for a series of years.

These tables are again presented, and exhibit the amount of the outstanding bonds of the Government and the amount held by the banks on July 1 of each year and November 1 of the present year.

The following table exhibits the classification of the unmatured interest-bearing bonded debt of the United States at the dates named:

Date.	Six per cent. bonds.	Five per cent. bonds.	Four and a half per cent. bonds.	Four percent bonds.	Total.
Aug 31 1865	\$51,855,800	\$132,792,100			\$1,116,810,191
July 1, 1866	1,048,188 00	198,728 45			1,246,916,004
July 1, 1867	1,421,110,7 9	138,001,445			1,559,112,154
July 1, 1868	1,841,521,830	221,588,400			2,063,110,230
July 1, 1869	1,858,341,00	221,580,000			2,079,921,000
July 1, 1870	1,704,902,00	221,580,000			1,926,482,000
July 1, 1871	1,613,807,300	274,200,450			1,888,007,750
July 1, 1872	1,364,883,000	474,007,500			1,780,451,100
July 1, 1873	1,281,215,650	414,567,400			1,695,783,050
July 1, 1874	1,213,624,700	510,628,150			1,724,252,850
July 1, 1875	1,100,805,500	607,132,750			1,707,938,250
July 1, 1876	904,000,050	711,805,800			1,615,805,850
July 1, 1877	854,651,850	701,200,050	\$140,000,000		1,695,851,900
July 1, 1878	738,610,000	701,200,050	240,000,000	\$98,650,000	1,778,460,050
July 1, 1879	310,000,500	640,900,500	240,000,000	679,878,110	1,870,779,110
July 1, 1880	235,780,400	484,804,000	250,000,000	739,317,800	1,709,896,100
July 1, 1881	106,378,000	439,841,500	250,000,000	739,347,800	1,535,567,300
July 1, 1882	Continued at $3\frac{1}{2}$ per cent. 58,937,150	Continued at $3\frac{1}{2}$ per cent. 461,503,000	250,000,000	739,349,350	1,449,810,400
July 1, 1883		32,682,500	250,000,000	737,842,200	1,324,229,150
July 1, 1884		301,204,350	250,000,000	737,681,700	1,212,273,850
Nov. 1, 1884		224,612,150	250,000,000	737,691,550	1,181,882,050

The Navy pension fund, amounting to \$14,000,000 in 3 per cents, the interest upon which is applied to the payment of naval pensions exclusively, and \$261,800 of refunding certificates, are not included in the table.

The operations of the Treasury Department for a series of years have largely reduced the amount of interest receivable by the national banks on the bonds held by them.

Seventeen years ago the banks had on deposit as security for circulation 327 millions in United States bonds, of which amount 241 millions bore interest at 6 per cent., and 86 millions at 5 per cent., and on July 1, 1882, they held 227 millions of $3\frac{1}{2}$ per cent. bonds. These bonds have now entirely disappeared from the list of securities held by the national banks. The average rate of interest now paid by the United States on the bonds deposited as security for circulating notes is about 3.6 per cent. upon their par value.

The banks now hold 49 millions of four and one-halves, 116 millions of fours, and 153 millions of three per cents, which have been refunded from three and one half per cents. This will be seen from the following table, which exhibits the amount and classes of United States bonds

owned by the banks, including those pledged as security for circulation and for public deposits, on the 1st day of July in each year since 1865, and upon November 1 of the present year :

Date.	United States bonds held as security for circulation.					United States bonds held for other purposes at nearest date.	Grand total.
	6 per cent. bonds.	5 per cent. bonds.	4½ per cent. bonds.	4 per cent. bonds.	Total.		
July 1, 1865.....	\$170,382,500	\$65,576,600			\$235,959,100	\$155,785,750	\$391,744,850
July 1, 1866.....	241,083,500	86,226,850			327,310,350	121,152,950	448,463,300
July 1, 1867.....	251,430,400	89,177,100			340,607,500	84,002,650	424,610,150
July 1, 1868.....	250,726,950	90,768,950			341,495,900	80,922,500	422,418,400
July 1, 1869.....	255,190,350	87,661,250			342,851,600	55,102,000	397,953,600
July 1, 1870.....	247,355,350	94,923,200			342,278,550	43,980,600	386,259,150
July 1, 1871.....	220,497,750	139,367,800			359,865,550	39,450,800	399,336,350
July 1, 1872.....	173,251,450	207,189,250			380,440,700	31,868,200	412,308,900
July 1, 1873.....	160,923,500	229,467,050			390,410,550	25,724,400	416,134,150
July 1, 1874.....	154,370,700	236,800,500			391,171,200	25,347,100	416,518,300
July 1, 1875.....	136,955,100	239,359,400			376,314,500	26,900,200	403,214,700
July 1, 1876.....	109,313,450	232,081,300			341,394,750	45,170,300	386,565,050
July 1, 1877.....	87,000,300	206,651,050	\$44,872,250		338,713,600	47,315,050	386,028,650
July 1, 1878.....	82,421,200	199,514,550	48,448,650	\$19,162,000	349,546,400	68,850,900	418,397,300
July 1, 1879.....	56,042,800	144,616,300	35,056,550	118,538,950	354,254,600	76,003,520	430,258,120
July 1, 1880.....	58,056,150	139,758,650	37,760,950	126,076,300	361,652,050	42,831,300	404,483,350
July 1, 1881.....	61,901,800	172,348,350	32,600,500	93,637,700	360,488,400	63,840,950	424,338,350
	Continued at 3½ per cent.:	Continued at 3½ per cent.:					
July 1, 1882.....	25,142,600	202,487,650	32,752,650	97,429,800	357,812,700	43,122,550	400,935,250
July 1, 1883.	385,700	7,402,800	39,408,500	104,954,650	353,029,500	34,094,150	387,123,650
		3 per cents. 200,877,850					
July 1, 1884.....		172,412,550	46,546,400	111,690,900	330,649,850	31,203,000	361,852,850
Nov. 1, 1884.....		155,604,400	49,537,450	116,705,450	321,847,300	30,419,600	352,266,900

The banks also held \$3,469,000 of Pacific Railway six per cents. They also had \$9,586,200 of three per cents, which were called and matured on and prior to November 1.

About one-half of the bonds now held by the national banks are three per cents.

If the public debt continues to be paid as rapidly as it has been during the past year, all of these bonds will probably be called within the next two years. Those of the lower numbers, which it is safe to estimate will be among the last called, cannot be purchased for a premium of much less than 2 per cent., and at that price there will be very little, if any, profit on circulation based on this class of bonds if they are redeemed within the next two years.

The profits on circulation, based on other bonds held by national banks, are merely nominal, after paying the annual tax of 1 per cent. on circulation.

SECURITY FOR CIRCULATING NOTES.

During previous years there have been many changes in the classes of United States bonds held by the national banks as security for their circulation, owing to the payment or refunding or extension of the different issues of 5 and 6 per cent. bonds, bearing interest at 4½, 4, 3½, and 3 per cent.

The amount of United States bonds held by the Treasurer as security

for the circulating notes of the national banks on the 1st day of November, 1884, is exhibited in the following table:

Class of bonds.	Authorizing act.	Rate of interest.	Amount.
		<i>Per cent.</i>	
Funded loan of 1891	July 14, 1870, and January 20, 1871 ..	4½	\$49,537,450
Funded loan of 1907	do	4	116,705,450
Funded loan of July 12, 1882	July 12, 1882	3	155,604,400
Pacific Railway bonds	July 1, 1862, and July 2, 1864	6	3,469,000
Total .....	.....	.....	325,316,300

During the year 1871, and previous thereto, a large portion of the bonds bore interest at the rate of 6 per cent., and until the year 1877 all of the bonds bore interest at either 5 or 6 per cent.

The 5 and 6 per cent. bonds in the year 1881 entirely disappeared from the list of these securities, with the exception of 3½ millions of Pacific sixes, and at the present time more than 47.8 per cent. of the amount pledged for circulation consists of bonds bearing interest at 3 per cent. only, and the remainder, with the exception of \$3,469,000 of Pacifics, bear interest at the rate of 4 and 4½ per cent.

AMOUNT OF UNITED STATES BONDS HELD BY THE NATIONAL BANKS AND BY BANKS ORGANIZED UNDER STATE LAWS.

Through the courtesy of State officers the Comptroller has obtained official reports made to them under State laws by State banks in twenty-two States, by trust companies in five States, and by savings banks in fourteen States, at different dates during the years 1883 and 1884, and from these returns the following table has been compiled:

Held by 817 State banks in twenty-two States	\$2,337,705
Held by 35 trust companies in five States	23,371,084
Held by 636 savings banks in fourteen States	196,226,202
Total	221,934,991

The interest-bearing funded debt of the United States was, on November 1, 1884, \$1,206,475,600. The total amount of bonds held by the national (\$342,156,300) and State and savings banks and trust companies (\$221,934,991) is nearly one half of the interest-bearing debt.

The amount of United States bonds held by State banks is given by geographical divisions for the years 1881, 1882, 1883, and 1884, as follows:

Geographical divisions.	1881.	1882.	1883.	1884.
Eastern States	\$40,468,340	\$42,667,248	\$37,399,819	\$30,806,938
Middle States	176,373,889	197,185,289	182,847,588	188,640,523
Southern States	1,073,460	208,350	646,500	96,750
Western States	5,735,518	3,369,414	3,105,024	2,390,780
Pacific States	14,874,332	20,020,175	17,743,978	(*)
Total	238,525,539	263,460,426	241,742,909	221,934,991

* The United States bonds held in the Pacific States are not included in the above table, as the returns for 1884 did not separate United States bonds from other bonds held. It is estimated that the amount held is \$18,000,000, the estimate being based upon the proportion of United States bonds to the total amount of bonds held in these States in 1883.

In previous reports the Comptroller has given the amount of United States bonds held by banks organized under State laws, and by private bankers, as returned to the Commissioner of Internal Revenue for purposes of taxation. The tax on deposits and capital having been repealed, no further returns of this kind will be available. The last returns to the Commissioner was for the six months ending November 30, 1882, and from these returns the following table has been compiled for the purpose of comparison with previous tables presented since the year 1880:

Geographical divisions.	Amount invested in United States bonds.		
	By State banks, private bankers, and trust companies.	By savings banks.	Total.
May 31, 1880:			
New England States	\$3,737,093	\$37,093,200	\$41,430,293
Middle States	20,564,814	146,301,155	166,865,969
Southern States	2,541,991	1,000	2,542,991
Western States	8,137,554	2,474,557	10,612,111
Pacific States and Territories	3,883,816	2,717,904	6,601,720
United States	88,865,288	180,187,816	228,053,104
May 31, 1881:			
New England States	2,985,496	36,640,795	39,626,291
Middle States	21,908,703	168,617,049	190,525,752
Southern States	1,707,702	21,689	1,729,391
Western States	6,734,948	2,689,447	9,424,395
Pacific States and Territories	4,984,813	6,911,198	11,895,511
United States	38,321,162	214,880,178	253,201,340
May 31, 1882:			
New England States	2,644,895	37,046,625	39,691,520
Middle States	20,576,823	189,775,842	210,352,665
Southern States	1,862,940	.....	1,862,946
Western States	7,099,874	2,354,710	9,454,584
Pacific States and Territories	5,897,637	12,851,605	18,749,242
United States	38,082,175	242,028,782	280,110,957
November 30, 1882:			
New England States	2,501,497	34,274,199	36,775,696
Middle States	19,735,340	179,131,959	198,867,299
Southern States	1,147,881	.....	1,147,881
Western States	6,528,666	2,143,118	8,671,784
Pacific States and Territories	5,781,749	14,380,007	20,161,756
United States	85,695,133	220,929,283	265,624,416

The data which have heretofore been obtained from the Commissioner of Internal Revenue included the returns from private bankers, and were, therefore, more complete than those obtained from the reports of State officers, but the amounts held by State and savings banks have not greatly differed.

THE FINANCIAL CRISIS OF MAY.

Owing to the large number of mercantile failures which had occurred during 1883, considerable financial uneasiness was felt at the beginning of 1884, and the year opened inauspiciously, by the appointment on January 1 of a receiver for the New York and New England Railroad. Following closely upon this failure were the troubles of the Oregon and Transcontinental Company, and the appointment on January 12 of a receiver for the North River Construction Company. The months of

February, March, and April were characterized by many commercial failures, rumors affecting the credit of various corporations, and a still further depreciation in price of stocks and bonds, and in fact of all products and commodities.

This feeling of uneasiness and of uncertainty as to values culminated on May 6 with the failure of the Marine National Bank of New York whose president was a member of the firm of Grant & Ward. The failure of this firm immediately followed, and owing to the prominence of some of its members and its large liabilities, exceeding \$17,000,000, its failure caused great excitement, that had not subsided when on May 13 the president of the Second National Bank of New York was discovered to be a defaulter to the extent of \$3,185,000. Although this defalcation was immediately made good by the directors of the bank and did not result in its suspension or failure, such a shock was given to credit, and to the confidence of the public in all institutions and firms supposed to have loaned money upon such railroad and other securities as had greatly decreased in value or whose managers were supposed to be directly or indirectly interested in speculation in Wall street, was so shaken, that there was great pressure to sell stocks and securities and an active demand on the banks for deposits.

This condition of affairs culminated on May 14 in the suspension of the Metropolitan National Bank, the failures of Donnell, Lawson & Simpson, Hatch & Foote, and several other bankers and brokers. These failures were followed on May 15 by that of the Newark Savings Bank, and by the suspension of Fiske & Hatch and others. Failures and suspensions continued through the months of May and June, including those of the Wall Street Bank, the Philadelphia and Reading Railroad, the West Shore Railroad, of C. K. Garrison, M. Morgan's Sons, and of other bankers and brokers.

The suspension of the Metropolitan National Bank on May 14 caused great excitement. All stocks and securities called upon the New York Stock Exchange were greatly depreciated under the pressure to sell, and it was practically impossible for the banks to collect their call loans, as their borrowers could not obtain money by sale of their securities except at ruinous rates; neither could they borrow elsewhere; and it was impracticable and impolitic to throw the mass of securities held as collateral to the call loans of the associated banks upon the market. If it had been done it is probable that a suspension of gold and currency payments by the banks throughout the country would have followed the general panic that would have ensued. In this emergency the members of the New York Clearing-House Association, realizing that an immediate demand for deposits would be made by their country correspondents, called a meeting at the clearing house on the afternoon of May 14, and the following plan for settling balances at the clearing house was unanimously adopted: * * *

Resolved, That, in view of the present crisis, the banks in this association, for the purpose of sustaining each other and the business community, resolve:

That a committee of five be appointed by the chair, to receive from banks members of the association bills receivable and other securities to be approved by said committee, who shall be authorized to issue therefor to such depositing banks certificates of deposit bearing interest at six per cent. per annum not in excess of 75 per cent. of the securities or bills receivable so deposited, except in case of United States bonds, and said certificates shall be received in settlement of balances at the clearing house.

After consultation with the officers and directors of the Metropolitan National Bank, a committee of examination was appointed to visit the bank and to ascertain if some plan could not be arranged to permit it to open again for business. The greater part of the securities of the

bank were found to be of such a character that loan certificates could safely be issued upon them, and in this way the Metropolitan National was enabled to resume business on May 15 and settle its balances at the clearing house. The prompt action of the members of the associated banks and the resumption of the Metropolitan National Bank greatly assisted in allaying excitement and staying the panic, and although confidence was not immediately restored, and although the banks in the city of New York were largely drawn upon by their country correspondents reducing their reserve for a time below the 25 per cent. limit prescribed by law, and although on account of the great depreciation of values and the stringency of the money market occasioned by the want of confidence other failures of State banks, private bankers, and mercantile firms occurred in New York and throughout the country, there was no suspension of gold and currency payments at any point, and the issue of loan certificates was confined to the banks of New York City, which were soon enabled to collect their loans and make good their reserves.

The crisis of May, 1884, seems to have been even more unexpected to the country than that of September, 1873. Although many conservative people had predicted that the large increase in railroad and other securities, and the general inflation which had been going on for a number of years would bring financial troubles and disasters to the country, it was nevertheless generally believed that the depreciation of values and the liquidation which had already been going on for many months, and the further facts that the country was doing business upon a gold basis, that the prices of all commodities were already very low, that an increased area of territory was under cultivation, and that the prospects were excellent for good crops, together with the larger distribution of wealth throughout the Union, would prevent a repetition of the panic of 1873. This general belief was measurably correct, as the panic or crisis was confined principally to New York City, although its effects were more or less felt in all parts of the country, and the liquidation resulting therefrom has not yet been fully completed.

The most profound students of political economy have for many years endeavored to explain the causes which have led to financial troubles similar to those of 1857, 1873, and 1884, and it is not to be expected that the Comptroller can obtain sufficient data to enter into a complete and satisfactory explanation of the causes of the financial disturbances of the present year. The causes that lead to financial crises in a country so rich in agriculture, of which the manufacturing and mining interests are so varied and important, the imports and exports so great, of so extensive an area of territory, and in which wealth is becoming so equally distributed, and the population of which is increasing so rapidly, are difficult to explain, and the issue of currency and creation of debt requires elaborate study to ascertain the reasons for the rise and fall in value of commodities and realty which cause a panic. It is scarcely possible at this time to explain why it should be necessary for the country to go through the liquidation and financial trouble which is now being experienced.

It is apparent, however, that a repetition of some of the same circumstances which brought about the monetary crisis of 1873 has been largely influential in causing the present crisis. Property of all kinds had been capitalized, as it is called; bonds and stocks had been issued for the purpose of building railroads, carrying on manufacturing and other business; municipal and other bonds had been issued for public improvements. These bonds and stocks were put upon the market, and

commercial credit was extended until a point was reached where capitalists of this and other countries questioned the intrinsic value of these securities and the earning power of the property on which they were based, and also doubted the solvency of many firms in commercial business. This lack of confidence induced them to decline to make farther advances or investments. A decrease in the earnings of railroads, manufacturing, and other enterprises followed, and the entire business of the country has consequently been restricted and deadened.

There is little doubt that one of the causes which led to the local disturbances among the banks, national and State, and private bankers of the city of New York, was their intimate relation in many instances to the New York Stock Exchange, and the fact that a large portion of the loans made by the banks and bankers of New York were based upon the security of stocks and bonds, often speculative in their character, which are dealt in and regularly called at the Stock Board.

It is no doubt correct in principle to advance money in aid of enterprises which are legitimate in their aims, and from which reasonable returns may be expected, and in order that the general business and commerce or the carrying trade of the country may be benefited. Due care should, however, be taken that loans so made should not exceed the amount which it would be safe to advance upon the intrinsic value of the property represented by the securities, and not upon a fictitious or unreal valuation. Lines should be closely drawn between legitimate business and speculation. The principles which underlie judicious and sound banking are the growth of an experience of many years. Banks not only loan their own capital but that of their depositors and creditors, and are therefore, to a certain extent, trustees, and should not encourage speculation or lend money for the furtherance of doubtful enterprises, even though the profits promise to be exorbitant. The proper relation of the New York Stock Exchange to the business of the United States is yet to be determined. The value of an exchange for the convenient sale and handling of stocks and securities is unquestioned; but when the members of this exchange, who have associated themselves together for the purpose of furthering the business and commerce of the country, use the machinery of this exchange to create speculative values and to increase or decrease prices of stocks and bonds for purposes of speculation solely, or, more properly, to encourage a form of gambling, it is a matter for serious consideration whether legislation by the State of New York or by the Congress of the United States should not be had to regulate a business which appears at times to be carried on to the great detriment of the true business interests of the country.

Just what restrictions should be placed upon the business of the New York Stock Exchange, or what legislation should be had, is difficult to determine. Just how far the Federal or State law can interfere with the business of private citizens is a delicate and difficult matter to settle.

In considering the financial troubles of May, 1884, in the city of New York, the Comptroller desires to call attention to the fact that while many banks and private banking firms of excellent repute failed, but one association organized under the national-bank act failed, and but one suspended.

The liabilities of State banks and private bankers failing during the month of May in the city of New York it is estimated exceeded in the aggregate 32 million dollars, while the liabilities of the only national bank in the same category was about 4½ millions, no loss to the public occurring through the national bank which suspended.

Upon learning of the defalcation at the Second National Bank on May 14, and when it was apparent that a financial crisis was imminent

in the city of New York, the Comptroller ordered expert and reliable examiners to the assistance of the national-bank examiner stationed at New York in order to protect the public. The examiners were instructed to exercise the utmost caution and vigilance, and to visit any of the national banks that appeared to be in trouble, or where violations of law or irregularities were suspected. They were especially instructed to report any criminal irregularities or violations of section 5209. Before permitting the Second National Bank, whose president had misappropriated over 3 millions of its funds, to open for business, the defalcation was made good under the supervision of the examiner. The plan of resumption for the Metropolitan National Bank, by obtaining loan certificates of the New York Clearing-House Association upon its securities, was also submitted by the examiner in charge of the bank to the Comptroller, the examiner remaining in charge until the plan was carried into effect and the bank permitted to resume.

During the crisis in New York, bank examiners throughout the country were directed to exercise the utmost vigilance in the districts to which they were assigned, to visit any of the national banks which appeared to be in trouble or which were suspected of irregularities. They were further instructed to report promptly by telegraph any matters of importance which might occur in their respective districts.

The Comptroller desires to call attention to the fact that only eleven national banks failed in the United States during the year ending November 1, 1884, although more than one hundred banks and bankers other than national failed during the same period. The records of this office show that many of the transactions of the national banks which failed, including the Marine and Metropolitan National Banks of New York City, were looked upon with disfavor, and that these associations as a rule had been frequently reprimanded for irregularities during the past few years. None of the disclosures made by the examiner's reports, however, gave the Department an adequate idea of the dangerous character of the business which was being carried on by the Marine National Bank of New York, and this is not singular, as the directors of the bank, as will hereafter be seen, were equally deceived in regard to the situation.

Further information relating to this and other matters pertaining to the banks that have failed during 1884 will be found under the head of national bank failures in this report.

* * * * *

NATIONAL-BANK FAILURES.

Eleven banks have been placed in the hands of receivers during the year ending November 1, 1884, viz :

Name of bank.	Capital.	Receiver appointed.
The First National Bank of Leadville, Colo	\$60,000	Jan. 24, 1884
The City National Bank of Lawrenceburgh, Ind.....	100,000	Mar. 11, 1884
The First National Bank of Saint Albans, Vt	100,000	Apr. 22, 1884
The First National Bank of Monmouth, Ill	75,000	Apr. 22, 1884
The Marine National Bank of New York, N. Y.....	400,000	May 13, 1884
The Hot Springs National Bank of Hot Springs, Ark	50,000	June 2, 1884
The Richmond National Bank of Richmond, Ind.....	250,000	July 23, 1884
The First National Bank of Livingston, Mont.....	50,000	Aug. 25, 1884
The First National Bank of Albion, N. Y	100,000	Aug. 26, 1884
The First National Bank of Jamestown, Dak	50,000	Sept. 13, 1884
The Logan National Bank of West Liberty, Ohio	50,000	Oct. 18, 1884

One of these, the City National Bank of Lawrenceburgh, Ind., had previously been placed in voluntary liquidation by the vote of shareholders, owning two-thirds of its stock, but failed to pay its depositors on demand.

In the case of the following six banks a final dividend to depositors has been paid during the year, and the affairs of all of them except those of the National Bank of the State of Missouri, have been finally closed. These banks, with the total dividend paid by each to their creditors, are as follows :

Name of bank.	Total divi- dends on principal.	Proportion of interest paid.
	<i>Per cent.</i>	<i>Per cent.</i>
The First National Bank of Austin, Nev.....	92. 70	.....
The Atlantic National Bank of New York, N. Y.....	100.	50.
The Miners National Bank of Georgetown, Col.....	76. 50	.....
The National Bank of Fishkill, N. Y.....	100.	38. 5
The National Bank of the State of Missouri, Saint Louis, Mo.....	100.	100.
The German National Bank of Chicago, Ill.....	100.	42. 3

In the case of the National Bank of the State of Missouri there still remains a portion of the assets which can only be liquidated at the close of protracted litigation. Whatever may be realized from this source will eventually be distributed among the stockholders of that bank who have paid an assessment upon their stock liability.

The affairs of a number of national banks in the hands of receivers have been completely liquidated, with the exception of litigation pending in the courts, which may protract their final settlement for some time, although in three cases, those of the First National Bank of Allentown, Pa., the First National Bank of Waynesburg, Pa., and the City National Bank of Chicago, Ill., a speedy settlement is now expected. The names of these banks, with the dividends already paid to the creditors, are as follows:

	<i>Per cent.</i>
Venango National Bank of Franklin, Pa	15
Scandinavian National Bank of Chicago, Ill.....	50
New Orleans National Banking Association of New Orleans, La.....	60
First National Bank of Anderson, Ind.....	25
Charlottesville National Bank of Charlottesville, Va	62
Fourth National Bank of Chicago, Ill.....	50
City National Bank of Chicago, Ill	77
National Bank of the State of Missouri, Saint Louis, Mo.....	*100
First National Bank of Georgetown, Colo	22½
Third National Bank of Chicago, Ill	*100
Central National Bank of Chicago, Ill.....	60
First National Bank of Allentown, Pa.....	85
First National Bank of Waynesburg, Pa	40
First National Bank of Dallas, Tex	37
People's National Bank of Helena, Mont.....	40
First National Bank of Bozeman, Mont.....	85
German-American National Bank of Washington, D. C	50
Second National Bank of Scranton, Pa	100
First National Bank of Butler, Pa.....	70
First National Bank of Newark, N. J	*100
First National Bank of Brattleboro', Vt	*100

* And interest.

The following banks in the hands of receivers have paid dividends during the past year, the total dividends up to November 1, 1884, being also given:

Name of bank	Dividends paid during the past year.	Total dividends on principal.	Proportion of interest paid.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
The First National Bank of Nevada, Austin, Nev	2.70	92.70	.....
The Atlantic National Bank of New York, N. Y	15.25	100	50
The Miners' National Bank of Georgetown, Colo	11.50	76.50	.....
The National Bank of Fishkill, N. Y	*38.50	100	38.50
The National Bank of the State of Missouri, Saint Louis, Mo	2.35	100	100
The First National Bank of Allentown, Pa	15	85	.....
The German National Bank of Chicago, Ill	25.5	100	42
The Second National Bank of Scranton, Pa	5	100	.....
The Pacific National Bank of Boston, Mass	5	10	.....
The First National Bank of Union Mills, at Union City, Pa	30	50	.....
The Vermont National Bank of Saint Albans, Vt	12.50	12.50	.....
The First National Bank of Leadville, Colo	20	20	.....
The First National Bank of Monmouth, Ill	70	70	.....
The Marine National Bank of New York, N. Y	25	25	.....
The Hot Springs National Bank of Hot Springs, Ark	30	80	.....

* Of interest.

The failures of national banks during the year ending November 1, 1884, have been more numerous than for a number of preceding years, and this is not surprising considering the great depreciation in values and the consequent general liquidation, which has resulted in failures among traders and others having an aggregate indebtedness of about \$200,000,000, as nearly as can be estimated. These failures have entailed large losses upon the banks generally, and the national banks mentioned, as well as many State banks and private bankers, have been unable to meet the continued strain. It is, however, surprising that the occasional failure of a national bank, to whatever cause due, with comparatively small capital and liabilities, should give rise to so much comment and excitement, when the numerous failures of State banks and private banks, of mercantile and manufacturing firms, and of joint-stock enterprises, causing losses vastly larger than those occasioned by the failures of national banks, attract comparatively little attention or criticism. As a rule, the jobber, manufacturer, or joint stock concern has obtained his or its capital in such a manner that the effects of their disasters are more widely distributed, and therefore less noticed. The failing State bank and private banker, however, equally with the national bank, inflict loss upon the immediate community in which they are located, and apparently the complaint should be as great of one class as of the other, which, however, is not the case.

It is also of interest to know that this is not the only country which has suffered from financial troubles, caused by the failure of banks and bankers. Banks of note have failed during the year in England and her provinces. The failure of the Oriental Bank was especially noticeable. This institution was represented by branches in India, Australia, and elsewhere throughout the British empire. It owed its depositors about six or seven million pounds sterling, equivalent to thirty to thirty-five millions of dollars. The liabilities of this one institution were therefore about equal to the aggregate liabilities of all the State and private bankers failing in the State of New York during the last year. The failure of the Oriental Bank was in some measure due to its giving its support to what in this country would be termed wildcat land speculations.

The most notable national-bank failure of the year in the United States was that of the Marine National Bank, of the city of New York, which closed its doors about 11 a. m. on the 6th of May. The bank examiners of the city of New York immediately took possession of the bank and found that it had been indebted to the clearing-house that day in the sum of \$555,000. The examiner also found the account of one firm overdrawn on the books of the bank to the amount of \$766,570.14. Upon further examination it was found that this firm owed a total of about \$2,430,500, being more than six times the capital of the bank. A portion of this indebtedness was in the names of other parties—clerks in their office and relations of one of the firm. How far the officials of the bank are criminally responsible for these matters is a subject now under investigation in the courts. The Comptroller finds from the report of the examiner that this firm had three different accounts with the bank—a private account of a member of the firm, a general account and a special account. It appears, from an examination of the transcript of these accounts, that on May 5 their special account was overdrawn by certified checks \$383,402.07, and that on the same day their general account was also overdrawn. It is apparent, therefore, that the bank had violated the law in regard to certifications by permitting these overdrafts. It is claimed, however, by the officers of the bank that these certifications were made against securities which were subsequently obtained from the bank by one of the firm upon his representations that he had obtained a loan upon them elsewhere, and would make good his account. A further examination of the various accounts of the firm shows that while the certification of their checks was carried on to an enormous extent, they also made very heavy deposits from day to day, and it will, perhaps, be very difficult to furnish evidence proving conclusively that the checks were certified before the deposits were made.

An examination of the minutes of the board of directors of the bank shows that on the 11th day of April, 1884, twenty-five days before the failure of the bank, the committee of examination appointed by the board of directors reported that they had examined the securities, counted the bills and specie, and examined the balances on the ledgers of the bank, and found the recorded statement of the 7th of April, 1884, to be correct. The minutes further show that the directors were in session about an hour before the bank closed. They apparently had no suspicion of the state of its affairs, and voted to discount certain offerings of commercial paper; and within half an hour after the adjournment of this meeting the bank closed its doors. It would seem, therefore, that the board of directors was grossly deceived as to the true state of affairs.

In this connection I desire to state that the records of the Comptroller's office show that many of the transactions of the Marine National Bank of the city of New York have been looked upon with disfavor, and that the association had been frequently reprimanded for irregularities during the past few years. None of the reports of examinations of the bank made to this office, however, disclosed any violations of the law forbidding the overcertification of checks, or gave the Department any adequate idea of the dangerous character of its loans, and this is not surprising, the directors of the bank having been equally deceived in regard to the situation.

After reviewing the information in his possession, it seems to the Comptroller that the failure of the Marine National Bank is in consequence of the board of directors having chosen for their president a man who was willing to risk his own honor and the funds of the bank

in speculation. He joined with himself another, who is now in Ludlow-street jail under indictment, and who was also a member of the board of directors of the bank. While it is true that the final failure has shown that there were overcertifications on the last day, the Comptroller judges, from the information which he has received, that the bank had been for a long time in the power of the firm to whom the certifications were granted, through the president's copartnership. This matter was carried to the extent of permitting one of the firm to have access to, and apparently free disposal of, the securities left as collateral to his loans, and, so far as actual results are concerned, he might as well have had the combinations of the cash vaults of the bank and helped himself to their contents.

The Metropolitan National Bank suspended and closed its doors about noon on May 14, and opened again for business at 12 o'clock on the following day, the bank examiner remaining in charge of the bank during its suspension. He also remained at the bank during the first days of its resumption, and has frequently visited it since, and forwarded reports as to its liquidation of deposits. Before permitting the bank to resume business the Comptroller received assurances from the examiner that the bank was solvent, and also received telegrams from the president and chairman on loans of the New York Clearing-House, stating that in their opinion the bank was solvent and should be permitted to resume. The bank is now closing its affairs, having arranged to pay its depositors in full and gone into voluntary liquidation under sections 5220 and 5221 of the United States Revised Statutes.

It is difficult to determine, in the case of this bank, what brought about its suspension. From the information which the Comptroller has, however, it appears that the president of the Metropolitan National Bank had the credit, at least, of being a very large speculator. He was supposed to be a man of very large means and was interested in many enterprises which required the use of large sums of money. The general liquidation in railroad and other securities which has been going on for the past two years had no doubt affected the properties in which the president was interested, and the public having become suspicious, and apparently believing that he was a large borrower from the bank, and had loaned money to parties who were interested with himself, all of whom were assumed to have lost largely by this depreciation of property, rumors were circulated which excited distrust and suspicion against his bank and caused the run upon it which resulted in its suspension. Reports of examinations do not disclose any overcertification of checks, and I cannot conclude that irregularities of this kind had anything to do with bringing about the suspension.

The Metropolitan National Bank was examined on April 28, 1884. The examination disclosed certain irregularities, and a letter was promptly written to the bank, requiring the correction of the irregularities, and forbidding the declaration of any further dividends until this had been done. While this letter was acknowledged, the matter was pending at the time of the suspension of the bank.

The trouble at the Second National Bank of the city of New York grew out of a defalcation amounting to \$3,185,000 by the president of the bank. The amount of this defalcation was immediately guaranteed and the money paid in by the directors. Owing to this prompt assistance the bank did not suspend, and is going on with its business in a solvent condition. As far as this office is advised, the president used the money in speculations in Wall street, and was able to conceal the fact of his misappropriation of the funds of the bank on account of the

securities being kept in a vault located at some distance from the regular banking rooms, which are on the corner of Twenty-third street and Fifth avenue. It appears that the president had access to these securities without check or hindrance, and used them to obtain money for his own private speculations.

In the matter of the failure of the Marine National Bank of New York, and the defalcation at the Second National Bank of New York, it appears from the information on file in this office that there have been not only irregularities, but violations of section 5209 United States Revised Statutes. The United States district attorney at the city of New York is in communication with the national bank examiner and the receiver of the Marine National Bank in regard to these matters, and the facts, which have been submitted to this office, the Comptroller has formally transmitted to the Attorney-General of the United States through the Secretary of the Treasury.

Since the commencement of the national banking system 100 banks have been placed in the hands of receivers, 474 banks have voluntarily closed their business, by the vote of shareholders owning two-thirds of their stock, under the provisions of sections 5220 and 5221 of the Revised Statutes of the United States, and the corporate existence of 15 banks has expired by limitation. Of the banks in the hands of receivers, 9 had been previously placed in voluntary liquidation by their stockholders, but failing to pay their depositors, receivers were afterwards appointed by the Comptroller to wind up their affairs. Of the 100 banks placed in the hands of receivers, 63 have been finally closed, leaving 37 still in process of settlement; 21 of which, as has been seen, are awaiting the results of pending litigation, leaving about 16 receiverships only in *active* operation.

The loss to creditors of national banks which have been placed in the hands of receivers during the twenty-one years that have elapsed since the passage of the act of February 25, 1863, as near as can be estimated, including dividends which will probably be hereafter paid, has been about \$8,266,000. The annual average loss has been, therefore, about \$400,000 in the business of corporations having an annual average capital of about \$450,000,000, and which have been responsible for the safe-keeping of deposits in their hands, averaging constantly over \$800,000,000, or about one-twentieth of 1 per cent. of annual loss to depositors.

The total amount paid to creditors of insolvent national banks amounts to \$23,499,522, upon proved claims amounting to \$38,489,810.

The dividends so far paid thus equal about 61 per cent. of the proved claims. The amount paid during the year was \$1,720,850.

Assessments amounting to \$8,901,750 have been made upon the stockholders of insolvent national banks for the purpose of enforcing their individual liability under section 5151 of the Revised Statutes, of which \$3,633,957 has been collected—\$282,678 during the past year.

A table showing the national banks which have been placed in the hands of receivers, the amount of their capital, of claims proved, the rates of dividends paid, and also showing the amount of circulation of such banks issued, redeemed, and outstanding, will be found in the appendix.

Whenever the failure of a national bank has disclosed criminal violations of the national bank act on the part of officers or directors, or whenever the reports of national bank examiners have disclosed similar violations, all the evidence procured pertaining to such transactions has been communicated to the Department of Justice through the proper

channels, and receivers and examiners have been instructed to furnish all assistance in their power to the United States attorneys in the several districts.

It is the intention of the Comptroller to rigidly enforce the bank act and to call the attention of the Department of Justice to any criminal violations of the same, but experience has proved that it is difficult, not only under the bank act, but generally under criminal statutes, to always obtain sufficient evidence to convict offenders. The Comptroller is of the opinion that, with a few exceptions, the national-bank act has adequate provisions for the prosecution and conviction of those who lay themselves liable to its penalties. As stated elsewhere, bank failures are not so much due to the inadequacy of the law as to the failure on the part of the directors to maintain a proper supervision of the affairs of their associations and of the conduct of their officers.

ILLEGAL CERTIFICATION OF CHECKS.

In reference to the matter of illegal certification of checks by the national banks of the city of New York, the records of this office show that immediately upon the passage of the act of July 12, 1882, the bank examiner for New York City was directed to furnish information as to whether it was the custom and practice of the national banks of that city to certify checks in violation of section 13 of that act, and section 5208, United States Revised Statutes. Many of the banks in New York immediately took advice of their attorneys, and opinions were sent to this office which were deemed of importance in the matter. The main point of these opinions was that the certifications forbidden were a form of acceptance, and that the right to make a general acceptance was not interfered with, reference being made to the third clause of section 5136, United States Revised Statutes, which confers upon national banks the power to *make contracts*. Many of the banks of New York, acting upon these opinions of their attorneys, changed the form of certifications, and the majority of the banks seem to have stamped their checks, for the purpose of certification, with the word "accepted," giving the date, and with the name of the teller written underneath.

On October 4, 1882, a letter was addressed to the Secretary of the Treasury asking him to refer certain questions which had arisen under the law to the Attorney-General for an opinion.

On November 24 the Attorney-General returned his opinion. In reply to the first question, whether a national bank had the right to *accept* checks drawn upon it unless the drawer has the amount stated in the check actually on deposit in the bank, he replied in the negative. To construe otherwise he held would be to allow a device to evade the provisions of law.

In reply to the second question, whether an acceptance under such circumstances would create a liability to the bank for money borrowed, and as such be subject to the limitation of section 5200 of the Revised Statutes, confining such liability to one-tenth of the capital stock of the bank, the Attorney-General replied in the negative, as the acceptance under such circumstances would not be a loan of money but of credit.

To the third question, as to whether such acceptances to an extent greater than the capital of the bank would be a violation of section 5202 of the Revised Statutes, the Attorney-General replied in the affirmative.

Immediately upon receipt of this opinion the banks were notified of the same, and warned that due regard must be had to the law as interpreted.

On July 19, 1883, a circular letter was sent to the New York banks asking information as to the large amount of certified checks and acceptances appearing in their last previous quarterly report, to which answers were duly received.

By an examination of the Wall Street National Bank, made on September 4, 1883, what appeared to be a clear case of violation of law was discovered, and a letter was addressed by my predecessor to the Secretary of the Treasury, inclosing a copy of the report, and asking him to transmit it to the Department of Justice for action. Although an endeavor was made by the district attorney to have all the officers of the bank indicted, yet the grand jury found an indictment only against the teller of the bank. When brought up for trial he plead guilty, but presented an affidavit showing that he had acted under the direction of his superior officers. The judge suspended sentence to admit of evidence of the implied charge against these officers. The district attorney was heard in this matter before a United States commissioner, and presented evidence against the officers, and a decision has been rendered holding all the officers for trial, as follows:

* * * * *

The teller, — — —, stands indicted for the offense with which the defendants here are charged, and I am informed that the court has suspended action pending proceedings to ascertain the relations of the principal officers of the bank to the transactions in question. The bank examiner, during his examination, stated that this was the first case arising under the law in which proceedings had been instituted. I feel the delicacy of any position in having to pass upon the questions involved in the absence of any adjudication. It appears that the defendants, Evans and Timpson, had no knowledge of these transactions with reference to Cecil, Ward & Co., and it has been suggested in the course of this examination that they be regarded as practically out of the investigation. The statute reads: "Any officer, clerk, or agent who shall," &c. The clerks did not adopt the plan of accepting checks in lieu of certifying. What part the cashier may have had in the adoption of it remains to be seen. I do not regard him as necessarily the guilty party or the only offender simply because he carried out the instructions of the bank or its policy. The device which constitutes this evasion need not to have originated on the day in question when it resulted in the violation of the law. The cause, the device, may have originated long prior. I shall surely hold those who caused the violation. From the evidence before me I cannot avoid the conviction that the model of accepting was resorted to purposely to evade the law; in other words, that they might in this way give customers credit beyond the amount of their deposit; that is exactly what the law forbids by certified checks, and it forbids it also by resorting to a device to accomplish it otherwise. That the law has been violated I have no doubt. Whom of the defendants should be adjudged the guilty party, and whether one or more, is for the court to determine and not for me to say. I have come to the conclusion to hold all the defendants, that all questions presented by this case may be fully heard and determined by the court.

* * * * *

The reports to Congress of my predecessor for the years 1882 and 1883 contained full information in regard to the certification of checks, legal and illegal, and enumerated the numerous ways there were of evading a technical violation of the law. At the same time a history of the growth of the practice of certifying checks was given. Certification was in use as a method of business for more than thirty years previous to the organization of the national banking system, and at least twenty years previous to the establishment of the clearing-house. It is the province of the office of the Comptroller of the Currency to call the attention of the proper officers of the Government to evidence by which violations of law may be punished. In regard to over-certification of checks, unless they result in loss, it is almost impossible to obtain evidence which will convict the offenders. The examiner cannot be in the bank at all times. He must depend for his knowledge of its business upon an examination of its books and accounts, and the general conduct of its business while he is making his

examination. In any case of certification, where no loss is encountered, the books at the close of the day, as a rule, show deposits equal to or greater than the checks drawn. In the case of the Wall Street National Bank a loss occurred by which the violation of the law was made apparent, and proceedings were commenced. In the case of the Marine National Bank the Comptroller judges from the information on file that there is good evidence of over-certification, and, as has been seen, action has already been taken by the United States district attorney. It has been stated to the Comptroller that on the day of the suspension of the Metropolitan National Bank many of the brokers engaged in business on Wall street, in New York, were very indignant at the national banks because they would not overcertify their checks, and in this way lend their credit to afford the brokers relief in the emergency. It is the opinion of the Comptroller that since the passage of the act of July 12, 1882, the officers of the national banks of New York have given the matter of certification of checks their serious attention, and that they have endeavored to diminish the dangerous features of this method of doing business.

After the passage of the act of July 12, 1882, my predecessor suggested the establishment of a stock clearing-house to enable the brokers to make their settlements without calling upon the banks to certify their checks for the purpose of clearing their stocks. This matter has received careful consideration by the bankers and brokers of New York. No plan has yet been suggested, however, which has seemed to meet the peculiar requirements of the Stock Exchange business in New York. The Comptroller hopes that the recent troubles growing out of Wall street speculations will force the bankers and brokers of New York, for their own protection, to agree upon a stock clearing-house system, and he believes that the present is an excellent time for the conservative bankers in the city of New York to make a move in this matter.

The Comptroller believes, however, that overcertification of checks, viz, the certification of checks as "good" when no funds are to the credit of the drawer of the checks, is not only practiced for the accommodation of the brokers who deal in stocks, but is also done for the accommodation of the dealers in produce. These dealers often require large temporary accommodations of money to take up bills of lading for produce which has been shipped to them from the interior, and which they desire to take from cars and warehouses for shipment abroad, and some accommodation is necessary in the interim until the ocean bills of lading can be obtained and exchange drawn against the consignment. While this practice is reprehensible and is not legitimate as a banking transaction, business has been and is carried on in this manner, and the fact that the national banks of the city of New York are endeavoring to comply with the law in regard to illegal certification of checks has caused many dealers in produce to withdraw their accounts from the national banking associations and has largely increased the business of certain of the State banks, which are under no restrictions of law in this matter. This is particularly noticeable in the case of the bank which was organized under the auspices of the New York Produce Exchange.

BANK EXAMINATIONS.

The recent financial disturbances throughout the country, and the consequent failures of national and State banks, have called the atten-

tion of the public to the official examination of banks as conducted under the authority of the national-bank act, and under various State laws.

The national-bank act provides for the issue and regulation of a national currency secured by United States bonds, and provides, also, for a banking system, in order to facilitate the issue of this circulation. It contains provisions bestowing certain privileges upon the banks organized under it, and provides many safeguards for the public by imposing on these banks such restrictions as the history of banking throughout the world has seemed to indicate were of a character to create a safe and permanent banking system. This law has been amended and improved from time to time, but it is not to be supposed that the national banking system is absolutely perfect, nor that imprudent banking under it can be altogether prevented.

In order to enable him to ascertain if the provisions of the law are followed, section 5240 Revised Statutes authorizes the Comptroller to appoint suitable persons to make an examination of the affairs of every national banking association. It has been customary from the establishment of the system to have a regularly appointed examiner visit each national bank at least once a year, in many cases twice a year, and when deemed necessary, even more frequently. The examination of national banks is conducted by the examiners in accordance with instructions issued from this office, which instructions, both general and specific, have grown with the growth of the system. The first general instructions to examiners were issued September 15, 1864, by the Hon. Hugh McCulloch, then Comptroller of the Currency, and as the bank act has been amended and revised these instructions have been altered as circumstances seemed to warrant. It has been the aim of the Comptroller to increase the efficiency of the examinations by carefully noting the causes that have in particular cases led to the suspension or failure of national banks, and calling the attention of the examiners to these causes, suggesting such methods of examination as seemed to be best calculated to prevent repetition of such disasters, and to expose violations of law which led to the same.

This official inquiry into the affairs of a national bank does not end with the mere inspection of the cash, bills receivable, books and accounts of the association, but the examiners are instructed to closely scrutinize the business of the bank, to investigate the standing and fitness for their positions of the persons to whom the management of the affairs of the association are intrusted, and the manner in which the business is usually conducted, whether prudently or otherwise; to ascertain as far as possible the character of the loans and discounts of the bank, and what losses, if any, have been or are likely to be sustained.

The examiner is also instructed to ascertain how frequently the board of directors meet together to consult in relation to the affairs of the bank, and to discover if possible any malfeasance in office or willful neglect of business on the part of the management; and is moreover particularly instructed to report to the Comptroller whether any excessive accommodations are granted in violation of section 5200 Revised Statutes, and to note if the officers of the bank are borrowing largely from the association; to ascertain the customary state of the lawful-money reserve by examining the daily statements for some time previous to the examination; whether or not the bank borrows money to loan again; and in short, to discover and report to this office all violations of law of whatever character.

Upon receipt of the report at this office all matters above mentioned,

and such others as may be referred to therein, are carefully reviewed and considered, and the directors of the bank are immediately notified of all violations of the law, and they are required to have the same promptly corrected. The attention of the directory is also specially called to the reform of such matters as are deemed detrimental to the safety and welfare of the association.

The general public do not understand the amount of labor performed weekly, monthly, and yearly by the examiners of national banks, many of whom have for years rendered most excellent service. It can hardly be expected, however, with the limited compensation allowed by law for making these examinations, that the Comptroller can in all cases retain the services of the most expert accountants, although by systematic division of the labor he has endeavored to obtain the best results possible under the circumstances.*

For the purposes of bank examination the United States is apportioned into twenty-five districts, bank examiners being stationed in each district. Important reserve cities, such as New York and Boston, generally form a district of themselves, and the duties of the examiner stationed there are usually confined to that city and its immediate vicinity. Owing to the nature of the work, the position of a national-bank examiner is one of great responsibility. Notwithstanding their vigilance, the most competent examiners are liable to be deceived, and sometimes find it impossible to discover and remedy in time even gross mismanagement of the affairs of national banks.

No laws or system of examinations will prevent dishonest men from keeping false accounts and rendering untrue statements, and by means of these and other devices they can conceal from the examiner the fact that they are using the money intrusted to their charge in private speculations until final disaster makes longer disguise impossible. It is thus exceedingly difficult to detect violations of law or misuse of the funds of a bank.

The surest preventive is to have an honest, active, and competent board of directors. A rogue or a dishonest man, who acquires the confidence of his associates to such an extent that he can appropriate the funds of a bank for his own use without their knowledge or that of the board of directors, can have but little trouble in deceiving the examiner and hiding his peculations from him.

In times of financial disaster and of a stringent money market the acts of dishonest and corrupt officials in any bank or banking firm or private corporation are more liable to be discovered, and naturally during the last year the consequences of disastrous speculation, which had been for a long period carried on with impunity with the aid of misappropriated funds, have been brought to the surface. Men who were supposed to be worthy of the entire confidence of communities, whose character stood so high that they were intrusted not only with the management of corporations, but with the investment of private

* It is submitted that the compensation allowed national-bank examiners by section 5240, Revised Statutes, is often insufficient. The assessments upon the banks, by which the law provides that the examiners' fees shall be paid, are based upon the capital of the national banks examined, and vary, according to capital, from \$20 to \$75. In many instances the capital is not the proper basis upon which to compute the compensation of national-bank examiners, as many banks with a comparatively small capital have large lines of deposits, and consequently do a much larger business and require more time and labor from the examiner than other associations with the same capital. The Comptroller is of the opinion that the fees paid to national-bank examiners should be based upon the capital and average deposits of the national-banking association.

funds, have now been proven to have dishonestly betrayed their trust. Never were the instances of this kind more numerous than during the financial troubles of the present year.

Such practices and the resulting disasters, however, do not prove that the national banking laws are inefficient, or that the national bank examiners do not do their duty. They rather indicate that the shareholders of joint-stock corporations of all kinds, and particularly those of banks, should be more careful to elect men as directors and trustees who are competent and who will exercise proper care and supervision over the management of the affairs intrusted to them, who will select competent and honest officers, provide suitable rules and regulations for the conduct of the bank, keeping its accounts, &c., and appoint regular committees of examination, whose duty it shall be not only to verify the accounts, but to keep a watchful eye over the affairs of the association and the officers who immediately carry them on.

The public frequently draw wrong deductions as to the responsibility of the Government and the bank examiners in particular cases. For instances, in many cases where failures occur the principal cause is found in the character of the loans made, which are either excessive or made on improper security. There are 2,671 national banks in the country. The loans and discounts of the banks at the close of business September 30, aggregated more than \$1,240,000,000, and it is of course not the province of the bank examiners to supervise the making of these loans. Section 5200, Revised Statutes, provides that no loans shall be made to any one individual, firm, or corporation in amount exceeding one-tenth of the paid-in capital of a bank, but there are many ways of evading this law, and it is a physical impossibility for the Government to maintain the constant espionage over the affairs of the national banks which alone would prevent the violation of this statute. Any attempt to direct the making of loans and to dictate to the directors and managers of the national banks throughout the country as to what use they shall make of their funds would, of course, be impracticable.

Many instances occur daily, which are not seen or known to the general public, where the banks are notified of violations of law, and where their condition is improved by action upon the reports of the examiner. When, however, some unexpected failure occurs, brought about by injudicious banking, bad management, or adventurous speculation, or by dishonesty and fraud on the part of the officers or directors, who are the very men to whom the examiner must more or less look for information, the Government and the national banking laws are unjustly criticised. The fault is not with the law and not with the examiner, on whose reports the directors have very likely been notified and warned to exercise more care in the management of their affairs and to hold their officers in check.

A national bank being a joint-stock association, its aggregation of capital having been brought together by bankers or other persons for the purpose of utilizing more effectually the resources of the locality in which it is doing business, it is not the intention of the bank act to interfere with the business of said association so long as it is conducted in accordance with the law. The exact line at which the Government shall interfere and the point at which Government discipline shall commence is a matter of some delicacy to determine. It is exceedingly difficult to add materially to the restrictions of the national-bank act without such an interference with the business of the banks as would be practically prohibitory, for it is well known that banking can be carried on under the laws of most of the States of the Union with but

very little interference and scarcely any espionage on the part of the officials of the State government. It is because the national banking system has raised the standard of banking, and because it is generally understood that money deposited with a national bank is as a rule much safer than in institutions not under similar restrictions, that bankers and capitalists avail themselves of the national-bank act in order to gain the confidence and thereby the deposits and business of the public.

The act appears to contain ample provisions for the punishment of criminal offenders, and the Comptroller is of the opinion that it is not so much the lack of law, as it is the difficulty of detection of offenders and of obtaining sufficient evidence to convict, that has prevented the punishment of officers and others connected with national banks who have violated the criminal sections of this act. In some cases the directors and shareholders of banks have apparently suppressed information and evidence, and in many instances it has been with great difficulty that the Comptroller was able to present the necessary facts to the Department of Justice to make a case. For obvious reasons, the number of instances in which this office has endeavored to secure the arrest and conviction of offenders by reporting to the proper officers of the law facts that came to the knowledge of the Comptroller, which seemed to indicate certain violations of law, cannot be presented, but it is believed that the records of the various States and United States courts show a larger number of indictments and of convictions for violations of the national-bank act than is generally known to the public.

It is possible that the provisions of the act relating to the punishment of offenders in the matter of false oaths of officers of banks with intention of deceiving the Comptroller as to the correctness of reports might be profitably amended. The Comptroller is of the opinion that if the criminal provisions of the bank act are to be amended, the Department of Justice of the United States should be consulted for suggestions as to any weakness or defect in the existing law.

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LOANS AND RATES OF INTEREST.

The following table gives the classification of the loans of the banks in the city of New York, in Boston, Philadelphia, and Baltimore, in the other reserve cities, and in the remaining banks of the country at corresponding dates in each of the last three years:

OCTOBER 3, 1882.

Classification.	New York City.	Boston, Philadelphia, and Baltimore.	Other reserve cities.	Country banks.	Aggregate.
	50 banks.	102 banks.	91 banks.	2,026 banks.	2,269 banks.
On U. S. bonds on demand	\$1, 618, 687	\$265, 357	\$1, 532, 214	\$1, 851, 550	\$5, 267, 808
On other stocks, bonds, &c., on demand	89, 532, 760	31, 653, 098	22, 143, 725	39, 554, 649	182, 884, 232
On single-name paper without other security	21, 382, 572	26, 721, 688	16, 075, 330	83, 576, 480	147, 754, 806
All other loans	126, 507, 873	143, 297, 359	106, 531, 193	526, 041, 981	902, 379, 670
Totals	239, 041, 892	201, 937, 502	146, 282, 462	651, 024, 060	1, 238, 283, 616

OCTOBER 2, 1883.

Classification.	New York City.	Boston, Philadelphia, and Baltimore.	Other reserve cities.	Country banks.	Aggregate.
	48 banks.	103 banks.	97 banks.	2,263 banks.	2,501 banks.
On U. S. bonds on demand	\$2, 093, 526	\$344, 337	\$323, 079	\$1, 972, 232	\$5, 033, 774
On other stocks, bonds, &c., on demand	94, 321, 605	29, 638, 276	23, 099, 682	41, 518, 741	188, 578, 304
On single name paper without other security	19, 147, 049	24, 684, 110	17, 250, 584	87, 910, 589	149, 001, 332
All other loans	129, 546, 152	146, 149, 205	110, 381, 881	574, 760, 143	960, 837, 381
Totals	245, 108, 332	200, 815, 928	151, 364, 826	706, 161, 705	1, 303, 450, 791

SEPTEMBER 30, 1884.

Classification.	44 banks.	104 banks.	99 banks.	2,417 banks.	2,664 banks.
On U. S. bonds on demand	\$2, 933, 785	\$644, 017	\$268, 396	\$970, 691	\$4, 816, 869
On other stocks, bonds, &c., on demand	69, 805, 215	25, 763, 605	18, 573, 905	84, 050, 829	148, 193, 554
On single-name paper without other security	12, 559, 441	22, 458, 870	16, 239, 550	83, 810, 871	133, 074, 232
All other loans	120, 054, 836	150, 372, 086	107, 543, 129	574, 016, 071	951, 980, 122
Totals	205, 353, 277	199, 238, 078	142, 624, 960	692, 854, 462	1, 240, 070, 797

In the table below is given a full classification of the loans in New York City alone for the last five years :

Loans and discounts.	October 1, 1880.	October 1, 1881.	October 2, 1882.	October 2, 1883.	September 30, 1884.
	47 banks.	48 banks.	50 banks.	48 banks.	44 banks.
On indorsed paper	\$107, 058, 860	\$112, 049, 004	\$118, 692, 651	\$121, 644, 201	\$116, 010, 062
On single-name paper	27, 755, 152	26, 935, 878	21, 203, 573	19, 147, 051	12, 559, 443
On U. S. bonds on demand	3, 915, 077	2, 539, 928	1, 707, 687	2, 093, 527	2, 933, 785
On other stocks, &c., on demand	92, 630, 982	97, 249, 162	89, 532, 762	94, 321, 605	69, 805, 215
On real-estate security	1, 336, 513	236, 100	304, 732	184, 083	163, 397
All other loans	5, 731, 917	7, 747, 587	7, 600, 487	7, 717, 245	3, 881, 375
Totals	238, 428, 501	246, 757, 659	239, 041, 892	245, 108, 332	205, 353, 277

The attention of Congress has previously been called to section 5200 of the Revised Statutes, which places restrictions upon loans, and to the difficulty of enforcing its provisions. In cities where large amounts of produce are received and stored, it is represented that it is impossible for the banks to transact this class of business, if restricted to loans for an amount not exceeding in any instance one-tenth of their capital. It is true that the limitation does not apply to loans upon produce in transit, where the drafts are drawn on existing values; but if produce is stored, instead of being shipped, large loans cannot be made except in violation of law. In such case the Comptroller has no means of enforcing the law, except by bringing a suit for forfeiture of charter, and this course might result in great embarrassment to business, as well as loss to many innocent stockholders of the banks. It is evident that the law should be so amended as to exclude from the limitation mentioned legitimate loans upon produce or warehouse receipts, and some other classes of collateral security, as well as loans upon United States bonds.

RATES OF INTEREST IN NEW YORK CITY, AND IN THE BANK OF ENGLAND AND THE BANK OF FRANCE.

The average rate of interest in New York City for each of the fiscal years from 1874 to 1884, as ascertained from data derived from the Journal of Commerce and the Commercial and Financial Chronicle, was as follows:

1874, call loans, 3.8 per cent.; commercial paper, 6.4 per cent.
 1875, call loans, 3.0 per cent.; commercial paper, 5.8 per cent.
 1876, call loans, 3.3 per cent.; commercial paper, 5.3 per cent.
 1877, call loans, 3.0 per cent.; commercial paper, 5.2 per cent.
 1878, call loans, 4.4 per cent.; commercial paper, 5.1 per cent.
 1879, call loans, 4.4 per cent.; commercial paper, 4.4 per cent.
 1880, call loans, 4.9 per cent.; commercial paper, 5.3 per cent.
 1881, call loans, 3.8 per cent.; commercial paper, 5.0 per cent.
 1882, call loans, 4.4 per cent.; commercial paper, 5.4 per cent.
 1883, call loans, 5.7 per cent.; commercial paper, 5.7 per cent.
 1884, call loans, 2.4 per cent.; commercial paper, 5.6 per cent.

The average rate of discount of the Bank of England for the same years was as follows:

During the calendar year ending December 31, 1874, 3.69 per cent.
 During the calendar year ending December 31, 1875, 3.23 per cent.
 During the calendar year ending December 31, 1876, 2.61 per cent.
 During the calendar year ending December 31, 1877, 2.91 per cent.
 During the calendar year ending December 31, 1878, 3.78 per cent.
 During the calendar year ending December 31, 1879, 2.50 per cent.
 During the calendar year ending December 31, 1880, 2.76 per cent.
 During the calendar year ending December 31, 1881, 3.49 per cent.*
 During the calendar year ending December 31, 1882, 4.10 per cent.*
 During the calendar year ending December 31, 1883, 3.57 per cent.†
 During the fiscal year ending June 30, 1884, 2.8 per cent.†

In the calendar year ending December 31, 1883, the rate of discount of the Bank of England was increased three times, and three times reduced. During the fiscal year ending June 30, 1884, the rate was increased once and decreased five times. The present rate is 5 per cent.

The average rate of interest in New York City for the four months previous to November 8, 1884, was on call loans 1.4 per cent., and on commercial paper 5.6 per cent.; the rate of interest on that date was on call loans 1 to 2 per cent., and on commercial paper 5 to 6 per cent.

The rate of discount in the Bank of France, which was lowered from 4 to 3½ per cent. on March 23, 1882, was lowered to 3 per cent. on February 23, 1883. The average rate of discount during the year 1883 was 3.08 per cent.

The number of trade bills admitted to discount in the Bank of France during the year 1883 was 5,047,179, representing a sum of \$956,569,720. Of this number of bills there were 13,069 bills of \$2.08 and under; 548,720 bills from \$2.29 to \$10; 787,481 bills from \$10.21 to \$20; 3,697,909 bills above \$20. That is to say, nearly a fourth part in bills under \$20.21. The number of trade bills under \$20 steadily increases. In 1880 there were 1,014,412 of these small discounted bills; in 1881, 1,160,945; in 1882, 1,224,326, and in 1883 they have increased to 1,349,250.

The governor of the Bank of France in his report of its transactions for the year 1882 said, "These figures will show how great are the services rendered by the bank to the retail trade of Paris."

INTEREST ON DEPOSITS.

The practice of paying interest on deposits by the national banks has been the subject of discussion for some time past. It is the custom

* From the Financial Chronicle only. † From the London Bankers' Magazine.

of the country banks to pay interest on current accounts, and also to issue certificates of deposit bearing interest, which latter usually state upon their face that no interest will be paid upon the same unless the deposit remains with the bank for three, six, nine, or twelve months, as the case may be.

Banks located in the cities, where a portion of the lawful money reserve of country banks may legally be kept, have been for many years in the habit of paying interest upon the daily balances of the accounts of their country depositors. Owing to the fact that the banks in the reserve cities other than New York keep large current accounts with their correspondents in that city, who in turn pay interest on the average daily balances of their correspondents, the result is that in times of easy money large sums accumulate in the city of New York subject to interest on current account. It is believed that this accumulation of money in the New York banks occasioned by this custom has a tendency to encourage speculation in stocks, as these banks are compelled to find some use for the money deposited with them on which they are in turn compelled to pay interest, and as this money is liable to be called for at any time, it is necessary to make loans payable on demand, and dealers in stocks called on the stock exchange, which theoretically can be readily sold at any time, are in consequence enabled to obtain money for speculation by pledging these securities as collateral and agreeing to repay the sum advanced on demand. The panic of 1873 and the financial troubles of May, 1884, have shown that these so-called demand loans are of such a character that the banks are not always able to realize upon them in case of emergency. The members of the New York Clearing-House Association, after the panic of 1873, discussed the abolition of the payment of interest upon current accounts. Again, upon the 4th of June, 1884, the association endeavored to have its members agree to discontinue the payment of interest on daily balances, but owing to the persistent dissent of a few members the association was unable to make the arrangement.

While the united action of the Clearing-House Association in favor of the abolition of the payment of interest on deposits would doubtless have great effect, yet so long as it is the almost universal custom of banks, State and national, and of private bankers throughout the country, to pay such interest, it is probable that if the associated banks should discontinue the practice, they would do so to their own great detriment and loss of business. Many of the accounts of country banks and out-of-town correspondents would be transferred to the trust companies, State banks, and private bankers who are not members of the association, and who would not be bound by its regulations, and for this and other reasons it seems very difficult to bring about an absolute cessation of the practice. Until all the bankers in the principal cities of the country agree to discontinue the payment of interest, it is probable that it will continue to be paid upon current accounts.

It has been held by the courts that the conferring of special powers upon national banking associations prohibited them from the exercise of certain other powers not specifically conferred, and the decisions of the United States courts seem to indicate that it is unlawful for a national bank to borrow money to lend again or to receive deposits payable at fixed future dates with interest thereon.

Notwithstanding the fact that it has been held that national banks could not receive deposits payable otherwise than on demand, it is possible that, in view of the fact that the custom of purchasing deposits by the payment of interest is so universal, the courts might hold

that national banks would have the same rights as other bankers to receive deposits subject to repayment upon a notice of from five to thirty days, and if this should be the case it is submitted that they should pay interest only upon deposits of this character, for there can be no doubt that it is extremely injudicious to receive current accounts payable *on demand* subject to interest. It would appear that if this course was adopted two classes of accounts would have to be maintained with most of the country correspondents of national banks in reserve cities, as it would be impracticable for a national bank in the interior to have any portion of its reserve deposited in such a manner that it could not be drawn upon demand. In view of the facts as stated, it is doubtful if any legislation upon this matter should be had which would discriminate against the national banks.

It is a question if in the business of banking it is not a correct principle to use every legitimate means to bring together an aggregation of funds for the purpose of carrying on large commercial transactions incident to the business of handling produce and carrying on the jobbing and other trades, which would otherwise be impossible. It is believed by many that the financial supremacy of London has been partially brought about by the custom of the bankers of that city of purchasing deposits and stimulating the accumulation of funds by the payment of interest. While the London joint-stock banks do not pay interest on their customers' accounts as a rule, they do pay interest on deposits on demand at a low rate, and at a higher rate where the money is left on seven days' and other longer notice, and enormous sums are constantly on deposit in London subject to interest in this manner.*

In some instances the money must be left for a month. These deposits are received from the general public, and also very largely from country correspondents. It is the custom, however, for the London banks to charge a commission, generally a fixed sum, but sometimes varying with the transactions, upon the business done with their correspondents in the country. The private bankers of London also pay interest in the same manner, and in many instances allow interest upon their customers' accounts, payable on demand. The rate of interest allowed on deposits in the city of London is usually but from one to one and a half per cent. per annum below the Bank of England rate for the time being on discounts. The country banks throughout the United Kingdom are in the habit of allowing interest on deposits and current accounts, to offset which, to a certain extent, they usually charge a commission on the transactions of their customers.

The following table exhibits the rate of interest charged by the banks and bankers of London for discounts, and also the rate of interest allowed on deposits during 1882, 1883, and first half of 1884:

	Second half of 1882, per cent. per annum.	First half of 1883, per cent. per annum.	Second half of 1883, per cent. per annum.	First half of 1884, per cent. per annum.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Average market rate of discount.....	3 9 3	3 4 3	2 17 1	2 5 5
Average allowance on deposits	3 0 6	2 12 11	2 8 10	1 16 5
Profit margins	0 8 9	0 11 4	0 8 8	0 9 0

NOTE.—London Bankers' Magazine, July, 1884.

* For information relating to customs of London bankers in regard to paying interest on deposits, the Comptroller is indebted to Mr. W. Talbot Agar, secretary of the Institute of Bankers, London, England.

STATE BANKS, TRUST COMPANIES, AND SAVINGS BANKS.

The act of Congress of February 19, 1873, section 333 of the United States Revised Statutes, requires the Comptroller to obtain from authentic sources, and report to Congress, statements exhibiting under appropriate heads the resources and liabilities of such banks and savings banks as are organized under the laws of the several States and Territories. In compliance with this act he has presented annually in the appendices to his reports the resources and liabilities of these corporations, so far as it has been possible to obtain them. Through the courtesy of State officers, returns of State banks, savings banks, and trust and loan companies have during the past year been received from twenty-two States. Many of the States and Territories, including Virginia, West Virginia, North Carolina, Alabama, Arkansas, Tennessee, Illinois, Kansas, Oregon, and Dakota, do not require periodical returns of the condition of the different classes of banks organized under their laws.

From these returns the following abstract has been compiled showing the resources and liabilities of State banks and trust companies for the last four years, the number reporting in 1881 being 683; in 1882, 704; in 1883, 788; and in 1884, 852:

	1881.	1882.	1883.	1884.
	683 banks.	704 banks.	788 banks.	852 banks.
RESOURCES.				
Loans and discounts	\$352,725,990	\$404,574,420	\$462,380,583	\$480,067,519
Overdrafts	1,407,603	1,373,116	1,493,616	1,030,474
United States bonds	27,080,023	25,673,084	22,723,506	25,708,789
Other stocks, bonds, &c	42,330,957	45,058,783	52,403,724	50,331,877
Due from banks	54,102,820	57,973,718	68,270,604	65,354,146
Real estate	31,396,772	19,913,682	20,180,547	21,211,182
Other assets	11,041,741	13,085,205	14,190,044	10,513,813
Expenses	1,136,427	1,103,345	1,191,580	1,235,079
Cash items	10,000,702	18,546,073	35,200,863	28,308,200
Specie	17,095,428	17,002,700	18,255,300	25,928,777
Legal tenders, bank notes, &c	27,391,317	27,322,912	28,259,069	32,050,605
Totals	575,500,139	633,819,008	724,479,613	700,940,457
LIABILITIES.				
Capital stock	112,111,325	113,361,031	125,233,030	133,968,061
Circulation	274,041	280,301	187,978	177,554
Surplus fund	27,857,070	31,504,352	34,875,461	41,075,488
Undivided profits	22,237,320	14,758,438	18,070,610	22,337,961
Dividends unpaid	576,413	577,419	403,011	499,017
Deposits	373,032,032	428,077,092	500,374,217	514,111,503
Due to banks	10,105,064	18,400,351	20,918,000	27,880,000
Other liabilities	30,303,808	28,245,024	24,648,364	20,301,501
Totals	575,500,139	633,819,008	724,479,613	700,940,457

The foregoing table was prepared from all the New England States, except Maine; from four Middle States, not including Delaware; and from all the Western States, excepting Illinois, Kansas, and Nebraska. The only Southern States from which reports have been received were South Carolina, Georgia, Louisiana, Texas, Kentucky, and Missouri. The only Pacific States were California and Colorado. There are no State banks in Maine, but one in New Hampshire, seven in Vermont, and none in Massachusetts. There are, however, six trust and loan companies in the latter State, one in Rhode Island, and six in Connecticut.

SAVINGS BANKS.

The following table exhibits the aggregate resources and liabilities of 629 savings banks in 1881 and 1882; 630 in 1883, and 636 in 1884:

	1881.	1882.	1883.	1884.
	629 banks.	629 banks.	630 banks.	636 banks.
RESOURCES.				
Loans on real estate	\$307,096,158	\$307,080,227	\$328,107,858	\$358,686,040
Loans on personal and collateral security..	95,817,641	128,483,608	153,874,622	141,467,111
United States bonds	210,845,514	237,786,442	219,817,313	190,126,209
State, municipal, and other bonds and stocks	159,819,042	208,291,274	190,629,915	222,218,008
Railroad bonds and stocks	27,000,048	32,004,578	41,605,701	80,084,579
Bank stock	33,240,203	33,305,717	36,587,817	37,029,754
Real estate	41,987,074	39,882,429	37,224,001	34,467,276
Other assets	37,408,163	11,047,346	53,235,771	69,166,584
Expenses	135,572	132,204	144,233	150,044
Due from banks	40,003,641	38,977,135	43,184,029	52,358,071
Cash	13,758,106	14,062,015	12,098,504	14,070,452
Totals	967,700,603	1,052,982,065	1,118,790,944	1,177,740,919
LIABILITIES.				
Deposits	891,961,142	966,797,081	1,024,856,787	1,073,294,955
Surplus fund	60,240,905	60,454,512	72,744,155	82,395,717
Undivided profits	10,325,800	11,106,219	15,738,223	16,004,753
Other liabilities	5,213,815	5,504,253	5,411,779	5,145,494
Totals	967,739,662	1,052,982,065	1,118,790,914	1,177,740,919

The foregoing table includes the returns from six New England States, from four Middle States, not including Delaware; from the States of Ohio, Indiana, California, and the District of Columbia. The aggregate of loans in the New England States is \$288,905,262 and of deposits \$475,358,305. In the Middle States the aggregate of loans is \$163,328,406 and of deposits \$522,771,526.

Some of the largest savings banks in the city of Philadelphia, organized under old charters, are not required to make reports to any State officer. Returns directly received from four of these banks having deposits amounting to \$34,031,154, are included in the returns from the State of Pennsylvania.

The savings banks' deposits, given in the foregoing table for 1884, based upon reports made to State authorities, are \$1,073,294,955, and the deposits of the State banks and trust companies were \$514,111,511. These returns do not include bank deposits. The deposits of the national banks on October 1, 1884, exclusive of those due to banks, were \$989,320,509. No just comparison of the deposits of national banks with those of savings banks and State banks and trust companies can be made, owing to the fact that the reports of many of the latter classes of banks were made to the State authorities in 1883 or in January, 1884, and do not show the effects of the business depression resulting from the failures during the year 1884.

The total population of New England, according to the census of 1880, was 4,010,529, and the number of open deposit accounts of the savings banks in the year 1884 is 1,430,857, which is equal to nearly 35.7 accounts to each one hundred of the entire population. The average amount of each account is \$332.21, and if the total deposits were divided

among the entire population, the average sum of \$118.52 could be given to each individual.

The deposits of the savings banks in the State of New York were \$431,080.010, while the population is 5,082,871, showing that an equal distribution of the savings banks' deposits among the entire population of the State would give \$84.81 to each individual.

Tables showing the aggregate resources and liabilities of State banks, trust companies, and savings banks in each State, from which returns have been received from the State authorities, appear in the appendix. A table is also there given showing, by States, the number of savings banks' depositors, and the average amount due to each in 1883 and 1884.

The Comptroller has for the last eight years compiled the returns received by the Commissioner of Internal Revenue from the State and savings banks and private bankers for purposes of taxation, showing the average amount of their capital and deposits for each six months, and the amounts invested in United States bonds. The law requiring such returns to be made has not been repealed, but as the tax on capital and deposits ceased on November 30, 1882, it is not expected that such returns will hereafter be transmitted. The Comptroller must therefore depend exclusively for this information upon the returns to be received from the officers of the different States, and when such returns are required to be made they are, as a rule, promptly and courteously forwarded to this office in reply to his request.

The legislature of Missouri recently passed a law requiring all banks in the State to make reports in the month of December. With a view of rendering this system of reports more complete and effective than at present, the Comptroller prepared in the year 1876 the form of a bill, which is herewith presented; and it is respectfully suggested to members of Congress and State officers residing in those States where no returns are required that, if approved by them, they shall lend the weight of their influence to procure the enactment of a law, similar in form, by the legislatures of their respective States. It may be mentioned that a bill, substantially the same as that here presented, has been passed by the legislature of Ohio.

A BILL to provide for obtaining and publishing reports of banks, savings institutions, and trust companies organized under State laws.

Be it enacted, That each and every banking institution, organized under the laws of this State, shall make a report to the auditor of state, showing the condition thereof before the commencement of business on the first Monday in the months of January, April, July, and October of each year.

SEC. 2. That the auditor of state shall issue his requisition upon all banking institutions, for the reports required to be made by section 1 of this act, a convenient number of days prior to the first day of January, April, July, and October, in each year, and each banking institution shall, upon receipt thereof, immediately forward to the auditor a balanced report of its condition, verified by the oath or affirmation of one or more of the officers of such institution, and shall also publish such report in full at its own expense, in a newspaper issued at the place where the institution is located, or, if there be no newspaper in that place, then in the one nearest thereto; and any banking institution neglecting to make and transmit to the auditor of state, and publish, such reports, shall, after the expiration of five days from the receipt of the requisition therefor, be subject to a penalty of thirty dollars for each day's delay, which penalty may be collected by suit to be brought by the auditor of state, or by any creditor of the association, before any court of competent jurisdiction in the district wherein such banking institution is located; and all sums of money collected for penalties under this section shall be paid into the treasury of the State.

SEC. 3. That banks, trust companies, savings banks, and other banking institu-

tions, having capital stock, shall report their resources and liabilities in the following form:

Report of the condition of The _____, at _____, in the State of _____, before the commencement of business on the first Monday of _____, 187-.

Dr.

Ca.

Resources.	Dollars.	Cts.	Liabilities.	Dollars.	Cts.
1. Loans on real estate.....			1. Capital stock paid in.....		
2. All other loans and discounts..			2. Surplus fund		
3. Overdrafts			3. Undivided profits		
4. United States bonds on hand..			4. State-bank notes outstanding.		
5. State bonds			5. Dividends unpaid		
6. Other stocks, bonds, and mort- gages			6. Individual deposits		
7. Due from other banks and bankers			7. Due to banks and bankers ...		
8. Real estate			8. Notes and bills rediscounted.		
9. Furniture and fixtures			9. Bills payable.....		
10. Current expenses					
11. Premium on bonds					
12. Cash items.....					
13. Gold coin, \$—; silver coin, \$—					
14. National-bank notes					
15. United States notes					
Total			Total		

STATE OF _____,
County of _____:
Sworn to and subscribed before me this _____ day
of _____, 187-.

I, _____, _____ of The _____, do
solemnly swear that the above statement is true,
to the best of my knowledge and belief.

Cashier.

SEC. 4. Savings banks and other banking institutions having no capital stock shall report their resources and liabilities in the following form:

Report of the condition of The _____, at _____, in the State of _____, before the commencement of business on the first Monday of _____, 187-.

Dr.

Ca.

Resources.	Dollars.	Cts.	Liabilities.	Dollars.	Cts.
1. Loans on real estate.....			1. Individual deposits		
2. Loans on United States and State stocks			2. Due to banks and bankers ...		
3. Loans on other stocks and bonds			3. Undivided profits		
4. All other loans.....			4. Other liabilities		
5. United States bonds on hand..					
6. State bonds on hand					
7. Other stocks and bonds					
8. Real estate.....					
9. Furniture and fixtures.....					
10. Expenses					
11. Due from banks and bankers..					
12. Specie					
13. National-bank and United States currency					
14. All other assets.....					
Total			Total		

STATE OF _____,
County of _____:
Sworn to and subscribed before me this _____ day
of _____, 187-.

I, _____, _____ of The _____, do
solemnly swear that the above statement is true,
to the best of my knowledge and belief.

Cashier.

And such banks shall also furnish, with their reports, the following information: The number of open accounts, and the rate per centum of dividends or interest on deposits, for the past year.

SEC. 5. That the auditor of state shall compile the reports received by him under this act, and the tables so compiled shall be printed quarterly for distribution when prepared, and shall be transmitted by him to the legislature at the beginning of each session thereof.

PRIVATE BANKERS.

The first official information relating to the private bankers of the country published by this office was contained in a table in the Comptroller's report for 1880. The law requiring private bankers to make returns for taxation purposes having been repealed, it is now impossible to obtain authentic information with reference to them. A table will be found in the appendix giving information on this subject for the six months ending November 30, 1882, being the last semi-annual period for which they were required to make returns of the amount of their deposits, &c., for taxation, and also similar information for preceding years.

TAXATION.

The law imposing a tax upon the capital and deposits of national banks, State banks, and private bankers was repealed by the act of March 3, 1883.

The only United States tax now paid by the national banks is the semi-annual duty of one-half of 1 per cent. upon the average amount of their notes in circulation during the preceding six months. The prohibitory tax of 10 per cent. upon State bank circulation paid out, as provided by section 3412 of the Revised Statutes, is also still in force.

Section 5173 of the Revised Statutes provides that the expenses of the Bureau of the Comptroller of the Currency, including those of the plates and dies used for the printing of national-bank notes and of the printing of such notes, shall be paid out of the proceeds of the tax on circulation.

The act of June 20, 1874, provides for the redemption of national-bank notes in the office of the Treasurer of the United States, and that the cost of such redemptions shall be paid by the banks, and that the cost of the plates for printing, up to that time paid out of the proceeds of the tax on circulation, shall thereafter be paid from the proceeds of an assessment upon the banks. Section 6 of the act of July 12, 1882, for extending the corporate existence of national banking associations, provides that the cost of engraving plates for the issue of circulation of new design, required by the section, should also be paid by the banks. It was the evident intention of the enactors of the original banking law that all the expenses which were incurred by the Government in preparing circulation to be issued to national associations, as well as the expenses of carrying on the Bureau of the Comptroller of the Currency and enforcing the restrictions of the national banking laws, should be defrayed from the tax on circulation. As has been seen, this principle was changed by the act of June 20, 1874, which, without abolishing the tax on circulation, imposed on the banks the expense of the redemption of their notes and of the printing of their plates, and that this course was followed in the act of July 12, 1882. In lieu of this additional expense, however, the act of June 20, 1874, abolished the requirement of keeping in bank a reserve of legal-tender notes and specie for the redemption of circulation. As has been suggested elsewhere in the report, the abolishment of the tax on circulation would be a ready and simple way of avoiding the contraction of national-bank circulation, now constantly going on, on account of the small profit to the banks in keeping up their issues, and if abolished the expenses of the Bureau of the Comptroller of the Currency could be paid by a pro rata assessment on the banks, as is now done in the case of the expenses of the redemption of their notes by the Treasurer of the United States, and in the case of the expense of preparing plates for printing the notes.

The total expense of the office of the Comptroller of the Currency from its organization to June 30, 1884, was \$5,840,923.99, and the ex-

pense for the year ending on that date \$230,224.92. The tax on circulation for the year ending on the same date was \$3,024,668.24. The total taxes collected from the national banks to the end of the present fiscal year are shown in the following table:

Years.	On circulation.	On deposits.	On capital.	Total.
1864.....	\$53,193 82	\$95,911 87	\$18,482 07	\$167,587 26
1865.....	733,247 59	1,087,530 88	183,251 15	1,954,029 60
1866.....	2,106,785 36	2,638,102 77	406,947 74	5,146,835 81
1867.....	2,868,638 78	1,650,180 09	321,881 36	5,840,608 23
1868.....	2,946,343 07	2,564,148 44	306,781 67	5,817,268 18
1869.....	2,957,416 73	2,614,558 58	312,918 68	5,884,888 99
1870.....	3,949,744 13	3,614,787 81	375,963 26	8,940,474 00
1871.....	2,987,021 60	2,802,840 85	385,202 13	6,175,154 67
1872.....	3,103,570 03	3,120,984 37	389,356 27	6,703,910 67
1873.....	3,353,186 12	3,190,560 29	464,801 61	7,004,648 82
1874.....	3,404,483 11	3,209,967 72	469,048 02	7,083,498 85
1875.....	3,283,450 89	3,514,285 89	507,417 76	7,305,134 04
1876.....	3,091,795 76	3,505,129 64	632,296 16	7,229,221 56
1877.....	2,900,057 53	3,451,965 38	660,784 90	7,013,707 81
1878.....	2,948,047 08	3,273,111 74	560,296 88	6,781,456 65
1879.....	3,009,647 16	3,309,668 90	401,920 61	6,721,236 67
1880.....	3,153,035 63	4,058,710 61	379,424 19	7,591,770 43
1881.....	3,121,374 33	4,940,946 12	431,233 10	8,493,553 55
1882.....	3,190,981 98	5,521,827 47	437,774 90	9,150,684 85
1883.....	3,132,006 73	*2,773,760 46	*289,976 43	6,175,778 62
1884.....	3,024,668 24	.....	.....	3,024,668 24
Aggregates.....	58,410,193 21	60,940,067 16	7,866,867 74	127,208,148 11

* Six months to June 1, 1883.

The following table exhibits the taxes upon the circulation, deposits, and capital of banks, other than national, collected by the Commissioner of Internal Revenue from 1864 to November 1, 1882, the date upon which the taxation of capital and deposits ceased:

Years.	On circulation.	On deposits.	On capital.	Totals.
1864.....	\$2,056,966 30	\$790,723 53	.....	\$2,837,719 83
1865.....	1,993,601 84	3,043,841 09	\$903,967 99	4,940,870 90
1866.....	900,278 11	2,099,635 83	374,074 11	3,468,988 05
1867.....	214,208 75	1,355,395 98	476,867 73	2,046,563 46
1868.....	26,668 88	1,438,512 77	399,563 90	1,865,745 55
1869.....	16,565 05	1,784,417 63	445,071 49	2,196,054 17
1870.....	15,419 94	2,177,576 46	827,087 31	3,020,083 61
1871.....	32,781 92	2,702,196 84	919,262 77	3,644,241 53
1872.....	8,919 82	3,643,251 71	976,057 61	4,628,229 14
1873.....	24,778 62	3,009,302 79	756,950 05	3,771,031 46
1874.....	16,738 26	3,453,544 26	916,878 15	3,387,160 67
1875.....	33,746 27	2,972,260 27	1,102,241 58	4,097,248 13
1876.....	17,047 67	2,999,530 75	989,219 61	4,096,698 03
1877.....	5,430 16	2,896,637 03	927,661 24	3,829,729 23
1878.....	1,118 72	2,593,687 29	897,225 84	3,492,031 85
1879.....	13,903 29	2,354,911 74	880,068 56	3,198,883 59
1880.....	28,773 37	2,510,775 43	811,434 49	3,350,983 28
1881.....	4,296 08	2,940,906 64	811,000 35	3,762,208 07
1882.....	4,285 77	4,096,102 45	1,158,070 25	5,253,458 47
1882*.....	.....	1,993,026 02	489,033 53	2,482,059 55
Aggregates.....	5,487,606 83	48,802,237 39	14,966,149 44	69,275,993 65

* Six months to November 30, 1882.

The shares of national banks are still subject to State taxation, and in previous reports tables exhibiting the average rates paid by national banks in the several States and Territories have been given, for purposes of comparison and to show the total burden of taxation heretofore borne by the national banks.

The national banks having been relieved of the United States tax on deposits, it has been thought unnecessary to continue the collection of information in reference to State taxation, which can only be obtained from separate returns to be made by each bank to this office. Complaints are from time to time received indicating that in some States there is an unfavorable discrimination made in the taxation of national banks, as compared with that of State institutions doing business of a

similar character. The United States Supreme Court has, however, in several instances shown that when cases of discrimination are properly brought to its attention it will sustain the Federal law. It is, moreover, doubtful whether Congress, by any law short of one taking from the States the right to tax national-bank shares, could prevent occasional instances of discrimination in assessments, but it is believed that in most of the States the intention is to place the taxation of national banks on the same footing with other institutions doing a similar business.

UNITED STATES LEGAL-TENDER NOTES AND NATIONAL-BANK CIRCULATION.

The acts of February 25, 1862, July 11, 1862, and March 3, 1863, each authorized the issue of 150 millions dollars of legal tender notes, making an aggregate of 450 millions of dollars.

On February 3, 1864, the amount of such notes outstanding was \$449,479,222, which was the highest amount outstanding at any one time. The act of June 30, 1864, provided that the total amount of United States notes issued, or to be issued, should not exceed 400 millions of dollars, and such additional sum, not exceeding 50 millions, as might be temporarily required for the redemption of temporary loans.

By the act of June 20, 1874, the maximum amount was fixed at 382 millions. Section 3, act of January 14, 1875, authorized an increase of the circulation of national banks in accordance with existing law, without respect to the limit previously existing, and required the Secretary of the Treasury to retire legal-tender notes to an amount equal to 80 per cent. of the national-bank notes thereafter issued, until the amount of such legal-tender notes outstanding should be 300 millions and no more. Under the operations of this act \$35,318,984 of legal-tender notes were retired, leaving the amount in circulation on May 31, 1878, the date of the repeal of the act, \$346,681,016, which is the amount now outstanding.

In the following table are given the amount and kinds of the outstanding currency of the United States and of the national banks on January 1 of each year from 1866 to 1884, and on November 1, 1884, to which is prefixed the amount on August 31, 1865, when the public debt reached its maximum:

Date.	United States issues.			Notes of national banks, including gold notes.	Aggregate	Currency price of \$100 gold.	Gold price of \$100 currency.
	Legal-tender notes.	Old demand notes.	Fractional currency.				
Aug. 31, 1865..	\$432,553,912	\$402,966	\$26,844,742	\$176,213,958	\$638,615,674	\$144 26	\$69 82
Jan. 1, 1866 ..	425,839,319	392,670	26,000,420	236,636,008	688,667,907	144 50	69 20
Jan. 1, 1867....	380,276,160	221,632	28,782,812	298,588,419	707,818,023	133 00	75 19
Jan. 1, 1868 ..	356,000,000	159,127	31,597,583	299,846,206	687,602,916	133 25	75 04
Jan. 1, 1869 ..	356,000,000	128,098	34,215,715	289,747,569	690,001,382	135 00	74 07
Jan. 1, 1870 ..	356,000,000	113,098	39,762,604	298,629,322	695,505,084	120 00	83 33
Jan. 1, 1871....	356,000,000	101,086	39,605,086	300,307,672	702,413,847	110 75	90 29
Jan. 1, 1872 ..	357,500,000	92,801	40,767,877	328,466,431	726,826,109	109 50	91 32
Jan. 1, 1873....	358,557,907	84,387	45,722,061	344,582,812	748,947,167	112 00	89 28
Jan. 1, 1874 ..	378,461,702	79,637	48,544,792	350,848,286	777,874,367	110 25	90 70
Jan. 1, 1875 ..	382,000,000	72,317	46,390,508	354,124,250	782,591,165	112 50	88 80
Jan. 1, 1876 ..	371,827,220	60,842	44,147,072	348,479,756	762,523,690	112 75	86 09
Jan. 1, 1877....	366,055,084	65,462	26,348,206	321,595,066	714,064,358	107 00	99 46
Jan. 1, 1878....	349,943,776	63,532	17,764,109	321,672,505	689,443,922	102 87	97 21
Jan. 1, 1879 ..	346,681,016	62,035	16,166,159	323,731,674	688,642,884	100 00	100 00
Jan. 1, 1880 ..	346,681,016	41,360	15,074,304	342,387,330	704,804,006	100 00	100 00
Jan. 1, 1881....	346,681,016	60,745	15,325,464	344,358,260	700,020,428	100 00	100 00
Jan. 1, 1882 ..	346,681,016	59,920	15,461,881	362,42,088	724,614,785	100 00	100 00
Jan. 1, 1883 ..	346,681,016	59,295	15,398,008	361,882,791	724,021,110	100 00	100 00
Jan. 1, 1884 ..	346,681,016	58,680	15,365,363	348,949,352	712,054,410	100 00	100 00
Nov. 1, 1884....	346,681,016	58,290	15,860,213	*339,007,772	696,007,291	100 00	100 00

* Includes \$684,079 notes of gold banks, and omits \$562,041 mutilated currency.

The act of June 20, 1874, provided that any national banking association might withdraw its circulating notes upon the deposit of lawful money with the Treasurer of the United States in sums of not less than \$9,000. Under this act and on account of liquidating and insolvent banks, and under the act of July 12, 1882, which provides for a deposit of lawful money to retire the circulation of national banks whose corporate existence has been extended, \$213,047,258 of lawful money has been deposited with the Treasurer. This includes \$2,583,720 for the redemption of the notes of national gold banks, and \$4,135,470 for the redemption of national-bank notes under section 6 of the act of July 12, 1882. Since June 20, 1874, \$175,150,769 of bank notes have been redeemed, destroyed, and retired. This includes \$2,129,641 of the notes of national gold banks and \$1,000,307 of the notes of national banks whose corporate existence has been extended under the act of July 12, 1882.

In the following table* are shown, by States, the amount of circulation issued and retired during the year ending November 1, 1884, and the total amount issued and retired since June 20, 1874:

States and Territories.	Circulation issued.	Circulation retired.		
		Act of June 20, 1874.	Liquidating banks.	Total.
Maine	\$85,664	\$127,400	\$89,915 00	\$217,315 00
New Hampshire		73,500	76,834 00	150,334 00
Vermont	107,990	363,400	124,266 00	487,666 00
Massachusetts	1,895,970	5,173,900	547,192 00	5,721,182 00
Rhode Island		497,970	1,800 00	499,770 00
Connecticut	54,500	772,800	102,480 00	875,280 00
New York	1,997,370	4,339,955	1,072,682 00	5,412,687 00
New Jersey	197,090	795,750	185,309 00	981,050 00
Pennsylvania	1,054,390	2,355,030	816,444 00	3,171,474 00
Delaware	77,400	26,100		26,100 00
Maryland	86,850	564,840	1,111 00	565,951 00
District of Columbia		15,400	5,190 00	20,590 00
Virginia	29,250	172,600	28,980 00	201,580 00
West Virginia	47,240	25,000	5,980 00	30,980 00
North Carolina	9,900	240,200	26,235 00	266,435 00
South Carolina	11,800	51,500		51,500 00
Georgia	24,300	114,550	12,072 00	126,622 00
Florida	11,240			
Alabama	45,000	190,700	22,564 00	213,264 00
Mississippi	22,500		85 00	85 00
Louisiana	45,000	34,400	3,950 00	38,350 00
Texas	502,390	128,904	10,082 00	138,886 00
Arkansas		6,400	2,830 00	9,230 00
Kentucky	222,790	600,270	77,771 00	678,041 00
Tennessee	191,240	163,150	97,607 00	260,757 00
Missouri	79,930	383,650	60,681 00	444,331 00
Ohio	430,590	1,432,060	1,025,236 50	2,457,296 50
Indiana	54,000	594,380	515,076 00	1,109,456 00
Illinois	363,820	817,160	309,062 00	1,126,222 00
Michigan	224,950	610,260	404,629 00	1,014,889 00
Wisconsin	259,390	221,330	128,331 00	349,661 00
Iowa	252,100	477,430	167,570 00	645,000 00
Minnesota	252,050	164,860	124,363 00	289,223 00
Kansas	390,760	87,480	24,260 00	111,749 00
Nebraska	343,020	47,950	14,266 00	62,216 00
Nevada			150 00	150 00
Oregon	33,740	5,000		5,000 00
Colorado	47,240	20,050	42,290 00	62,340 00
Utah	108,000	27,450	1,029 00	28,479 00
Idaho	11,240	5,600		5,600 00
Montana	61,860	57,500	16,655 00	74,155 00
Wyoming	8,500			
New Mexico	22,500	3,750		3,750 00
Dakota	101,680	77,095		77,095 00
Washington	36,000	56,950		56,950 00
Arizona	11,250		2,040 00	2,040 00
California (currency)	544,500	92,400	26,600 00	119,000 00
Surrendered to this office and retired	10,371,694	22,016,064	6,173,635 50	28,189,699 50
From June 20, 1874, to October 31, 1883	10,371,694	22,016,064	6,173,635 50	28,670,198 50
Surrendered to this office same date	159,702,355	118,147,154	26,684,274 00	144,831,428 00
Grand total	170,074,049	140,163,218	32,857,909 50	180,899,436 50

*In this table gold notes are excluded.

The amount of circulation issued to national banks for the year ending November 1, 1884, was \$10,371,694, including \$3,866,230 issued to banks organized during the year. The amount retired during the year was \$28,670,198, and the decrease for the same period was, therefore, \$18,298,504,* and the total outstanding on November 1 was \$333,025,734.†

During the year ending November 1, 1884, lawful money to the amount of \$33,689,476 was deposited with the Treasurer to retire circulation, of which amount \$2,153,506 was deposited by banks in liquidation, \$27,445,500 by banks reducing circulation under the act of June 20, 1874, and \$4,090,470 by banks retiring circulation under the act of July 12, 1882.

The amount previously deposited under the acts of June 20, 1874, and July 12, 1882, was \$139,832,692; by banks in liquidation, \$51,186,180, making a total of \$224,708,348. Deducting from the total the amount of circulating notes redeemed and destroyed without reissue (\$183,452,264), there remained in the hands of the Treasurer on November 1, 1884, \$41,256,084 of lawful money for the redemption and retirement of bank circulation.

The portion of lawful money on deposit by insolvent banks, by banks in voluntary liquidation, and by banks reducing or retiring their circulation on the first of each of the last five months, was as follows:

	July 1.	August 1.	September 1.	October 1.	November 1.
Insolvent banks.....	\$816, 283	\$752, 580	\$767, 063	\$783, 803	\$734, 713
Liquidating banks	11, 188, 915	10, 825, 121	10, 457, 257	10, 396, 076	10, 316, 235
Reducing under act of 1874	25, 492, 223	25, 588, 483	25, 149, 758	26, 028, 148	27, 009, 973
Retiring under act July 12, 1882	2, 294, 823	2, 393, 123	2, 704, 053	2, 863, 733	3, 135, 103
Totals.....	39, 792, 244	39, 559, 307	39, 078, 131	40, 021, 760	*41, 256, 084

*Does not include \$534,079 on deposit to retire notes of gold banks.

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REDEMPTION.

Since the passage of the act of June 20, 1874, section 3 of which requires the banks at all times to keep on deposit in the Treasury 5 per centum of their circulation as a redemption fund, that fund as a rule has been maintained, and circulating notes of the banks have been promptly redeemed at the Treasury without expense to the Government.

From the passage of the act of June 20, 1874, to November 1, 1884, there was received at the redemption agency of the Treasury \$1,448,485,411 of national-bank currency for redemption. During the year the receipts amounted to \$136,577,732, of which amount \$63,926,000, or nearly 47 per cent. was received from banks in the city of New York, and \$21,800,000, or about 16 per cent. from banks in the city of Boston. The amount received from Philadelphia was \$6,888,000; from Chicago, \$5,490,000; from Cincinnati, \$1,903,000; from Saint Louis, \$1,136,000; from Baltimore, \$3,229,000; from Providence, \$1,852,000; and from Pittsburgh, \$798,000.

The following table exhibits the amount of national-bank notes received monthly for redemption by the Comptroller of the Currency during the year ending October 31, 1884, and the amount received during

* Lawful money has been deposited during the year to retire \$5,872,172 additional circulation which has not yet been presented for redemption. Therefore the actual reduction of circulation during the year has been \$24,170,676, as shown on page 14.

† Omits \$534,079 gold notes and includes \$552,041 mutilated currency.

the same period at the redemption agency of the Treasury, together with the total amount received since the passage of the act of June 20, 1874:

Months.	Received by the Comptroller of the Currency.					Received at redemption agency.
	From national banks for release or surrender.	From redemption agency for release.	Under act of June 20, 1874.	Notes of national banks in liquidation.	Total.	
1882.						
November	\$39,740	\$5,338,100	\$1,270,284	\$428,298	\$7,097,407	\$9,172,985
December	30,150	5,102,800	1,425,450	412,135	6,970,535	10,623,458
1883.						
January	21,000	0,775,000	2,004,520	550,880	3,418,600	17,463,933
February	56,800	7,268,800	2,336,080	503,885	10,274,965	11,516,544
March	37,400	7,058,300	2,094,800	790,829	9,891,329	8,679,518
April	72,100	5,700,100	1,550,950	516,478	7,248,628	11,642,521
May	49,050	7,540,300	2,298,930	729,617	10,623,897	12,037,496
June	72,300	5,780,500	1,766,270	572,597	8,191,667	11,867,181
July	44,190	5,404,100	1,931,855	547,051	7,987,196	12,886,241
August	39,820	4,439,500	1,807,055	498,962	7,075,337	11,213,879
September	110,484	4,332,400	1,585,450	483,125	6,511,459	8,746,775
October	39,720	5,562,400	1,777,270	621,411	8,000,801	11,207,900
Total	604,554	70,569,400	22,007,864	6,061,254	99,862,073	136,677,732
Received from June 20, 1874, to October 31, 1883.	14,437,806	651,453,653	118,334,154	26,693,074	710,918,779	1,811,907,67
Grand total	15,042,450	622,042,853	140,342,018	32,854,328	810,780,852	1,448,485,411

The amount of notes fit for circulation returned by the redemption agency to the banks of issue during the year was \$33,080,300, being an increase over last year of \$12,295,200.

The total amount received by the Comptroller of the Currency for destruction from the agency and from the banks direct, was \$71,192,954. Of this amount \$6,399,030 were the issues of banks in the city of New York, \$9,169,340 of banks in Boston, \$3,052,990 of Philadelphia, \$3,052,900 of Providence, \$1,949,550 of Baltimore, \$1,724,000 of Pittsburgh, \$1,184,500 of Cincinnati, \$767,100 of Louisville, \$443,200 of Albany, \$478,000 of New Orleans, and of each of the other principal cities less than \$400,000.

The following table exhibits the number and amounts of national-bank notes of each denomination, which have been issued and redeemed since the organization of the system, and the number and amount outstanding on November 1, 1884:

Denominations.	Number.			Amount.		
	Issued.	Redeemed.	Outstanding.	Issued.	Redeemed.	Outstanding.
Ones	23,167,677	22,671,936	495,741	\$23,167,677	\$22,671,936	\$495,741
Twos	7,747,519	7,603,285	144,234	15,495,038	15,206,570	288,468
Fives	88,101,188	71,039,857	17,061,331	440,505,940	355,196,785	85,309,155
Tens	37,182,102	26,050,107	11,131,995	371,821,020	260,501,070	111,319,950
Twenties	11,442,091	7,481,762	3,960,329	228,841,870	149,635,240	79,206,630
Fifties	1,661,110	1,216,573	444,537	83,050,500	60,826,650	22,223,850
One hundreds	1,109,750	874,543	235,207	110,973,000	87,454,300	23,520,700
Five hundreds	23,736	21,981	1,755	11,864,000	10,990,500	873,500
One thousands	7,369	7,156	213	7,369,000	7,156,000	213,000
Portions of notes lost or destroyed					-29,749	+20,749
Total	170,532,442	136,906,700	33,625,742	1,302,092,995	999,620,802	332,473,603

A table showing the number and denomination of national-bank notes issued and redeemed, and the number of each denomination outstanding on November 1, for the last thirteen years, will be found in the Appendix.

The following table exhibits the amount of national-bank notes received at this office and destroyed yearly since the establishment of the system :

Prior to November 1, 1865	\$175, 490
During the year ending October 31, 1866.....	1, 050, 382
During the year ending October 31, 1867.....	3, 401, 423
During the year ending October 31, 1868	4, 602, 825
During the year ending October 31, 1869.....	8, 603, 729
During the year ending October 31, 1870.....	14, 305, 689
During the year ending October 31, 1871	24, 344, 047
During the year ending October 31, 1872.....	30, 211, 720
During the year ending October 31, 1873.....	36, 433, 171
During the year ending October 31, 1874	49, 939, 741
During the year ending October 31, 1875.....	137, 697, 696
During the year ending October 31, 1876.....	98, 672, 716
During the year ending October 31, 1877.....	76, 918, 963
During the year ending October 31, 1878.....	57, 381, 249
During the year ending October 31, 1879.....	41, 101, 830
During the year ending October 31, 1880.....	35, 539, 660
During the year ending October 31, 1881.....	54, 941, 130
During the year ending October 31, 1882	74, 917, 611
During the year ending October 31, 1883.....	82, 913, 766
During the year ending October 31, 1884.....	93, 178, 418
Additional amount of insolvent and liquidating national banks.....	43, 289, 045
Total	969, 620, 301

APPENDIX.*

Tables will be found in the Appendix exhibiting the reserve of the national banks as shown by their reports from October 1, 1878, to September 30, 1884; the reserve by States and principal cities for September 30, 1884; and in the States and Territories, in New York City, and in other reserve cities, separately, at three dates in each year from 1881 to 1884.

Special attention is called to the synopsis of judicial decisions contained in the Appendix, to the numerous and carefully prepared tables in both report and Appendix, and to the index of subjects and list of tables to be found on page 255. At the end of the full volume is an alphabetical list of the cities and villages in which the national banks are situated.

The Comptroller, in concluding this report, desires to gratefully acknowledge the industry and efficiency of the officers and clerks associated with him in the discharge of official duties, many of whom, in addition to attending to their regular duties, have been compelled, owing to the growth of the national banking system, the extension of the corporate existence of national associations, and the financial troubles of the year, to perform a large amount of extra work, without regard to office hours.

HENRY W. CANNON,
Comptroller of the Currency.

Hon. J. G. CARLISLE,
Speaker House of Representatives.

* The appendix, which is omitted for want of space, will be found in the bound volumes of the Comptroller's report.

REPORT OF THE DIRECTOR OF THE MINT.

TREASURY DEPARTMENT,
BUREAU OF THE MINT,
Washington, D. C., October 14, 1884.

SIR: I have the honor to submit my sixth annual report, being the twelfth annual report of the Director of the Mint since the creation of this Bureau, showing the operations of the mints and assay offices of the United States, and the business of this Office, during the fiscal year ended June 30, 1884.

The amount of gold and silver received for coinage or manufacture into bars varied but slightly from that deposited during the previous year. The coinage of silver was about the same, but a greater proportion than heretofore was coined at the Philadelphia and New Orleans Mints. The San Francisco Mint was principally engaged in the coinage of gold bullion.

The Philadelphia Mint was chiefly occupied with the coinage of silver and minor coins, and this occasioned a reduced coinage of gold—only \$2,777,154—although the mint had on hand during the year over \$25,000,000 of gold bullion.

The amount of gold and silver parted and refined was considerably greater at the New York Assay Office and Philadelphia Mint, but, on account, probably, of the reduced production, was less at the San Francisco Mint than in the previous year.

DEPOSITS AND PURCHASES.

The deposits of gold amounted to \$46,326,678.66, of which \$29,079,596.33 consisted of gold bullion of domestic production, and \$6,023,734.45 of foreign bullion; \$9,095,461.45 of foreign, and \$263,117.17 of United States coin, and \$1,864,769.26 of jewelry, old plate, &c.

The silver purchased for coinage and contained in bullion deposits amounted at its coining value to \$36,520,290.36, of which \$31,463,113.88 consisted of bullion of domestic production; \$2,524,742.53 of foreign bullion; \$1,984,365.62 of foreign and \$152,031.20 of United States coin, and \$396,037.13 of plate, jewelry, &c.

In addition to these several amounts received, fine and unparted bars prepared at these institutions, were redeposited as follows:

Gold:	
Fine bars	\$1,382,778 81
Unparted bars	2,647,310 96
Silver:	
Fine bars	1,029,887 29
Unparted bars	48,207 64

The total value of the gold and silver received in deposits and purchases was \$82,846,969.02, and, including redeposits, \$87,955,153.92.

Nearly all of the gold and two-thirds of the silver of domestic production came to the mints and assay offices, which also received of foreign bullion and coin imports an aggregate in gold of \$15,119,195.90 out of \$19,006,355 imported during the year, and, in silver, \$4,509,108.15 out of \$13,908,763.

The net imports, less re-exports, of foreign coin during the year were, in gold, \$8,223,431, and, in silver, \$372,557, and the deposits at the mints

and assay offices of foreign coin amounted to \$9,095,461.45 gold, and \$1,984,365.62 silver, and exceeded the net imports by \$872,030.45 gold, and \$1,611,808.62 silver, the former being probably brought by immigrants upon their persons, and the latter by railroad and not reported to the custom-house.

COINAGE.

The coinage of gold was about eight millions less than in the previous year. This was caused in part by the diminished receipt of gold bullion at the San Francisco Mint, where the deposits of gold of domestic production fell off three and a half, and the total deposits of gold about three millions of dollars; and in part by a lessened coinage of gold at Philadelphia, which mint was principally occupied in manufacturing silver and minor coins.

The character of the coinage executed during the year was as follows:

Description.	Pieces.	Value.
Gold.....	1, 827, 739	\$27, 982, 824 00
Silver	34, 775, 793	28, 778, 387 80
Minor	55, 935, 029	1, 174, 709 73
Total.....	92, 558, 561	57, 890, 921 53

Of the total coinage \$23,765,900 were in double-eagles, \$2,033,040 in eagles, and \$2,116,020 in half-eagles. In silver \$28,099,930 were in standard dollars, \$665,160.30 in dimes, \$4,465 in half-dollars, and \$3,832.50 in quarter-dollars.

For the reasons stated in my last report a large portion of the silver dollar coinage was executed at the Philadelphia and New Orleans Mints, which coined 22,135,930 dollars, while the coinage of this denomination at the San Francisco and Carson Mints amounted only to 5,964,000 dollars.

In order to satisfy the demand for dimes on the Pacific coast, the superintendent of the San Francisco Mint was authorized to purchase bullion for the coinage of dimes, and during the year 500,000 pieces were struck.

The demand for bronze cents continued about the same as during the previous year, and 40,571,962 pieces, of the nominal value of \$405,719.62, were issued from the Philadelphia Mint; while the coinage of five-cent pieces was much less than in the previous year, being 15,374,905 pieces, of the nominal value of \$768,745.25.

HAWAIIAN COINAGE.

Application having been made by the Hawaiian Government for the coinage at the San Francisco Mint of one million dollars in silver of denominations to correspond with the coins of the United States in weight and fineness, regulations of the 9th of November, 1883, were prescribed by the Secretary of the Treasury as required by the act of January 29, 1874.

The coinage applied for having been authorized by the Secretary of the Treasury, the Director, with his approval, fixed the charges for coin-

ing the number of pieces specified, and the charges having been paid, the coinage was commenced on the 17th of November, 1883.

The dies prepared for the purpose and furnished by the agent of the Hawaiian Government were, upon completion of the coinage in June, 1884, forwarded to and remain in the possession of the Director of the Mint.

The application specified the coinage of a piece of the value of one-eighth of a dollar, but this was subsequently changed to a piece of ten cents.

The total coinage, in pieces and value, was as follows :

Denomination.	Pieces.	Value.
Dollars	500,000	\$500,000
Half-dollars	700,000	350,000
Quarter-dollars	500,000	125,000
Dimes	250,000	25,000
Total	1,950,000	1,000,000

BARS.

Besides the manufacture of coin, gold bars of the value of \$23,875,585.57, and silver bars of the value of \$7,639,724.42—a total of \$31,515,309.99—were prepared at the mints and assay offices.

The bars manufactured in the last fiscal year exceeded in value those of the previous year by \$5,195,502.63. The increase was occasioned by a greater demand for these bars at the New York Assay Office, which prepared during and held at the beginning and close of the year bars containing gold and silver at standard fineness as follows :

GOLD.

Date, &c.	Fine.	Mint.	Standard.	Sterling.	Total.
	<i>Stand. ozs.</i>	<i>Stand. ozs.</i>	<i>Stand. ozs.</i>	<i>Stand. ozs.</i>	<i>Stand. ozs.</i>
July 1, 1883.....	275,840.301	1,019,821.937	12,876.284	77,066.236	1,385,613.758
Manufactured.....	707,427.976	307,869.103	74,655.883	32,961.346	1,122,914.308
Add reclassified.....	28,710.343	.....	215,722.602	251,282.926	.....
Deduct reclassified.....	.....	495,716.871	.....	.....	.....
Total.....	1,011,987.620	831,975.169	303,254.769	361,310.508	2,508,528.066
Issued	800,419.792	665,231.273	101,914.235	113,901.357	1,681,466.657
June 30, 1884	211,567,828	166,743.896	201,340.534	247,409.151	827,061.409

SILVER.

July 1, 1883.....	266,030.36	95,944.11	1,585.92	.....	363,560.39
Manufactured.....	5,226,509.62	156,164.88	31,937.50	.....	5,414,612.00
Total.....	5,492,539.98	252,108.99	33,523.42	.....	5,778,172.39
Issued	5,174,059.99	188,546.16	28,112.63	.....	5,390,718.78
June 30, 1884	318,479.99	63,562.83	5,410.79	.....	387,453.61

GOLD BARS EXCHANGED FOR COIN.

Gold bars were paid out in exchange for gold coin during the year, at the Philadelphia Mint, to the value of \$381,269.71, and at the New

York Assay Office to the value of \$25,419,530.15, a total of \$25,800,799.86.

Of the bars thus exchanged \$22,966,975.44 worth were paid out at New York to exporters for shipment to Europe, and \$2,833,824.42 worth were delivered for use in manufactures, arts, and ornamentation.

PARTING AND REFINING.

The work of the mints and New York Assay Office in separating gold and silver, and refining bullion, increased from that in the preceding year, the increased receipts of bullion to be parted or refined being over 400,000 ounces, containing nearly \$3,000,000 of gold and \$400,000 in silver. The number of gross ounces of bullion refined or parted in the acid refineries and the ounces at standard fineness and values of the gold and silver resulting from those operations are shown in the following table:

OUNCES.

Mint or assay office.	Gross.	Standard gold.	Standard silver.
Philadelphia	879, 090. 18	135, 577, 210	789, 425. 03
San Francisco	5, 505, 896. 55	499, 452, 009	5, 134, 621. 66
Carson	1, 189, 289. 30	88, 484, 848	1, 142, 713. 74
New Orleans	52, 604. 28	2, 897, 851	51, 211. 74
New York	5, 514, 176. 00	617, 517, 000	4, 639, 779. 00
Total	13, 141, 056. 31	1, 343, 928, 918	11, 757, 751. 16

VALUE.

Mint or assay office.	Gold.	Silver.	Total.
Philadelphia	\$2, 522, 366 70	\$918, 603 67	\$3, 440, 970 37
San Francisco	9, 292, 130 40	5, 974, 832 46	15, 266, 962 86
Carson	1, 646, 229 73	1, 329, 703 26	2, 975, 932 99
New Orleans	53, 913 51	59, 591 84	113, 505 35
New York	11, 488, 688 37	5, 399, 015 56	16, 887, 703 93
Total	25, 003, 328 71	13, 681, 746 79	38, 685, 075 50

DIES AND MEDALS.

Fewer dies for coinage were prepared at the Philadelphia Mint than in the previous year, a less number being required for striking subsidiary silver and minor coins. The total number of dies manufactured for medals and coinage was 1,520, of which 132 were for the gold, 388 for the silver, and 958 for the minor coinage; 36 for proof and experimental coins, and 6 for medals. Sixty coinage dies were prepared for the New Orleans Mint, 49 for Carson, 160 for San Francisco, and 1,209 for Philadelphia.

The number of medals struck at the Philadelphia Mint during the year aggregated 10,777; of which 97 were of gold, 524 of silver, 777 of bronze, and of goloid from planchets furnished for the "Toronto semi-centennial," 10,000.

During the same period 3,992 medals and 4,118 proof sets were sold, and the receipts from this source amounted to \$12,410.48.

SILVER PURCHASES AND COINAGE.

The silver bullion belonging to the Government available for the coinage of standard silver dollars on hand at the coinage mints July 1, 1883, amounted to 3,936,880.10 ounces, of standard fineness, and cost \$3,918,793.05. During the year 24,358,835.02 standard ounces, at a cost of \$24,378,383.91, were purchased and delivered at the several mints, as follows:

Mint at which delivered.	Standard ounces.	Cost.
Philadelphia.....	11,580,922.56	\$11,602,821.80
San Francisco.....	4,117,383.29	4,102,719.47
New Orleans.....	7,836,514.79	7,853,507.11
Carson.....	824,014.38	819,835.53
Total.....	24,358,835.02	24,378,383.91

The average cost of silver per ounce of standard fineness purchased during the year was \$1.00080, and per ounce fine \$1.11200. The average London price for silver 925 fine (British standard) during the year was 50.791 pence, equivalent with sterling exchange at par (\$4.8665) to \$1.11339 per ounce 1,000 fine. The average New York price during the year was \$1.1156. Of the silver on hand, and purchased during the year, 24,148,377.35 standard ounces, costing \$24,133,257.34, were used in the coinage of silver dollars, and contained, in sweeps sold, 33,967.51 ounces, costing \$34,023.10, and 36,184.10 standard ounces, costing \$36,292.23, wasted by the operative officers, leaving a balance of silver bullion available for the silver-dollar coinage on hand June 30, 1884, of 4,077,186.16 standard ounces, costing \$4,093,604.29. The amount purchased during the year averaged monthly \$2,031,531.99 worth.

SUBSIDIARY COINAGE.

On the 1st of July, 1883, the Philadelphia Mint had on hand of bullion resulting from the melting of uncurrent silver coins transferred for recoinage, and of silver transferred prior to July 1, 1883, from the New York Assay Office and purchased for the coinage of fractional silver, 19,160.09 ounces, costing \$22,465.35.

The superintendent of the mint at Philadelphia, with the approval of the Director, purchased in open market, for the coinage of dimes, for which the demand continued from the Treasury and the public, 333,446.29 standard ounces, at a cost of \$333,288.06, and purchased from the New York Assay Office during the year, for such coinage, 188,546.16 standard ounces, costing \$219,399.16; making the total amount at the Philadelphia Mint available during the year for the fractional coinage 541,152.54 standard ounces, costing \$575,152.57, of which 501,104.21 standard ounces, costing \$530,659.34, were consumed at that mint in the coinage of dimes.

The Secretary of the Treasury having requested, under date of December 1, 1883, the coinage at the San Francisco Mint of \$50,000 in dimes, the superintendent of that mint, with the approval of the Director, purchased 41,199.01 standard ounces, at a cost of \$41,157.81. Of this amount 40,187.50 ounces of silver bullion, at standard fineness, costing \$40,147.31, were used in coining dimes.

Upon the bullion purchased for this coinage the deductions for charges were equal to 764.46 ounces, costing \$763.70, which amount was transferred and carried into the accounts of the Mint as a purchase for the

silver-dollar coinage. The balance, 247.05 standard ounces, costing \$246.80, was also subsequently transferred in the accounts and purchased for the silver-dollar coinage, closing the account of silver purchased during the year at the San Francisco Mint for the fractional coinage.

The total of silver bullion on hand at the mints June 30, 1884, belonging to the Government, excluding amount due depositors, was as follows:

Purpose.	Standard ounces.	Cost.
For standard dollar coinage.....	4, 077, 186. 16	\$4, 093, 604 29
For subsidiary silver coinage.....	40, 048. 33	44, 493 23
Total	4, 117, 234. 49	4, 138, 097 52

PROFITS ON SILVER COINAGE AND THEIR DISPOSITION.

The balance remaining in the coinage mints to the credit of the silver-profit fund on the 1st of July, 1883, was \$1,278,596.59; the profits on the coinage of silver dollars during the year were \$3,966,672.66; and on subsidiary silver coined at Philadelphia and San Francisco, \$102,651.15; making the total to the credit of the silver-profit fund during the year \$5,347,920.40. Of this amount \$26,667.04 were paid for wastage and loss on sale of sweeps, properly payable from silver profits, and \$57,824.45 for expenses incurred in distributing the coins, and \$3,485,984.21 were deposited in the Treasury of the United States, leaving the balance in the coinage mints to the credit of this fund on the 30th of June, 1884, \$1,777,444.70. This balance has been deposited in the Treasury by the several mints as follows:

Mint.	Date of deposit.	Amount.
Philadelphia.....	August 20, 1884	\$484, 890 43
	September 10, 1884	443, 947 78
San Francisco.....	September 10, 1884	117, 400 16
Carson.....	August 25, 1884	78, 311 81
New Orleans.....	July 26, 1884	334, 903 44
	August 25, 1884	317, 891 08
Total.....		\$1, 777, 444 70

The profits on the coinage of silver on hand at the coinage mints on the 1st of July, 1878, amounted to \$424,725.47; the profits on the coinage from that date to the 30th of June, 1884, amounted to \$20,972,913.52. Adding to these two amounts the sum of \$9,237.54, refunded by Adams Express Company for overcharges, and the sum of \$4,560.30, carried to the credit of silver profits on account of surplus bullion and adjustments of silver values, makes a grand total of silver profits to be accounted for during the period of \$21,411,436.83. Of this amount \$416,223.52 were paid for expenses in distributing the coin, \$150,070.77 for loss on silver in sweeps sold and for silver wasted by the operative officers; making the net profits \$20,845,142.54, all of which have been deposited in the Treasury, \$19,067,697.84 prior to and \$1,777,444.70 since the 30th of June, 1884.

DISTRIBUTION UNDER SECTION 3527, REVISED STATUTES.

The following statement shows in detail the silver dollars on hand at the several coinage mints July 1, 1883, and coined during the year, and the balance on hand June 30, 1884, which, deducted from the former,

gives the aggregate amount exchanged and paid out by the mints during the year \$17,303,586.

AMOUNT of SILVER DOLLARS REPORTED by the COINAGE MINTS on HAND June 30, 1883, COINED during the year, and on hand at the close of the fiscal year ended June 30, 1884,

Period.	Philadel- phia.	San Fran- cisco.	Carson.	New Or- leans.	Total.
On hand June 30, 1883	\$4,354,571	\$30,841,960	\$1,914,522	\$6,193,337	\$43,304,390
Coinage fiscal year 1884	13,230,930	4,800,000	1,164,000	8,905,000	28,000,930
Total	17,585,501	35,641,960	3,078,522	15,098,337	71,404,320
In mints June 30, 1884	7,453,512	32,645,500	2,721,284	11,280,638	54,100,934
Distributed	10,131,989	2,996,460	357,238	3,817,699	17,303,586

CIRCULATION OF SILVER DOLLARS.

The total circulation of silver dollars from the passage of the act of February 28, 1878, to the commencement, middle, and close of the fiscal year 1884, and to the 1st of October, 1884, as appears from the records of the mints, and the amount held in the Treasury, as reported by the Treasurer, and balance in general circulation for those periods, respectively, are shown by the following statement:

COMPARATIVE STATEMENT of the COINAGE, MOVEMENT, and CIRCULATION of STANDARD SILVER DOLLARS at the end of each six months from July 1, 1883, to July 1, 1884, and for the three months ending October 1, 1884.

Period.	Total coin- age.	In the Treasury.			In circula- tion.
		Held for payment of certificates outstanding.	Held in ex- cess of cer- tificates outstanding.	Total.	
July 1, 1883	\$147,255,899	\$72,620,686	\$39,593,333	\$111,914,019	\$35,341,880
January 1, 1884	161,423,119	96,717,721	22,731,664	119,449,385	41,975,734
July 1, 1884	175,355,829	96,427,011	39,133,905	135,560,916	39,794,913
October 1, 1884	182,380,829	96,491,251	45,567,536	142,058,787	40,322,042

The foregoing statement shows that from July 1, 1883, to October 1, 1884, the increase in the total coinage of silver dollars was \$35,124,930, in the amount held by the Treasury \$30,144,768, and in the total circulation outside of the Treasury only \$4,980,162.

REVIEW OF THE OPERATIONS OF THE MINTS AND ASSAY OFFICES.

In the appendix will be found comparative summaries of the work of each of the mints, and of the New York Assay Office, for the last and the previous fiscal year, and of the other assay offices for the fiscal year 1884, which indicate the character, amount, and degree of accuracy of the operations at these institutions, respectively, during the periods named. The deliveries of bullion by depositors to the superintendents of the coinage mints and the New York Assay Office and transfers to and receipts from the operative officers of gold and silver bullion during the year, involving the weighing, handling, assaying, and

working of more than three hundred and fifty millions of dollars of bullion, have been accomplished without any discrepancies in the accounts of the officers, without loss to the Government, and with general satisfaction to the public.

In the appendix also will be found a table showing the value of the precious metals wasted by the operative officers at the coinage mints, in the business of the year, and the loss arising from the sale of gold and silver bullion contained in sweeps at a price less than the assay value, and the manner in which the wastage was paid or reimbursed in the accounts. The value of the gold and silver wasted at the mints during the year was \$40,601.48, while gold and silver of the value of \$60,364.24 was returned by the melter and refiners of the mints and the New York Assay Office in excess of the amounts with which they were charged during the year, and bullion of the value of \$8,521.45 was obtained from the sweepings of the deposit-melting and weigh rooms of the institutions named; making a total gain of \$68,885.69, or an actual excess over and above the amount wasted by the operative officers in the business of the year of \$28,284.21.

From this it will be seen that although the law contemplates a loss in the operations on bullion and makes provision for its allowance, if *bona fide* and within the prescribed limits, the business has been so carefully and honestly conducted that instead of a net loss there has been a profit in the operations on bullion.

This is highly creditable to the officers in charge of the different branches of work in the various institutions, as well as to the workmen engaged in these delicate and responsible operations.

APPROPRIATIONS, EARNINGS, AND EXPENDITURES.

The amount appropriated for the support of the mints and assay offices for the fiscal year ended June 30, 1884, was \$1,191,650 or about \$7,000 less than the preceding year. Of this amount there was expended at the various institutions the sum of \$1,154,660.80, and in addition thereto there was expended from the appropriation contained in the act directing the coinage of the standard silver dollar \$136,054.78 on account of the mints and \$1,261.96 at the Treasury Department, the latter being principally for cablegrams giving daily London price of silver. The total expenses of the service amounted, therefore, to \$1,291,977.54, about \$30,000 less than the amount expended in 1883.

The following table exhibits the appropriations for the support of the several institutions and the amounts expended to each:

APPROPRIATIONS, 1884.

Institution.	Salaries.	Wages.	Contingent.	Coinage of the standard silver dollar, act of February 28, 1878 (indefinite).	Total.
Philadelphia Mint	\$41,550 00	\$293,000 00	\$100,000 00	.....	\$434,550 00
San Francisco Mint	43,400 00	242,000 00	70,000 00	.....	355,400 00
Carson Mint	29,550 00	54,000 00	25,000 00	.....	108,550 00
New Orleans Mint	31,950 00	74,000 00	35,000 00	.....	140,950 00
Denver Mint	10,950 00	12,000 00	6,000 00	.....	28,950 00
New York Assay Office	39,250 00	25,000 00	10,000 00	.....	74,250 00
Helena Assay Office	7,950 00	12,000 00	8,000 00	.....	27,950 00
Boisé Assay Office	3,000 00	.....	5,000 00	.....	8,000 00
Charlotte Assay Office	2,750 00	.....	2,000 00	.....	4,750 00
Saint Louis Assay Office	3,500 00	.....	4,800 00	.....	8,300 00
Total	213,850 00	712,000 00	265,800 00	.....	1,191,650 00

EXPENDITURES, 1884.

Institution.	Salaries.	Wages.	Contingent.	Coinage of the standard silver dollar, act of February 28, 1878 (indefinite).	Total.
Philadelphia Mint	40,503 18	*293,229 91	†100,173 35	84,422 70	518,329 14
San Francisco Mint	43,400 00	231,855 75	54,650 07	4,649 00	334,554 82
Carson Mint	29,050 00	53,909 25	22,134 17	17,308 54	122,401 00
New Orleans Mint	31,873 10	73,988 24	34,998 00	29,674 54	170,533 88
Denver Mint	10,950 00	12,000 00	5,507 84	.....	28,457 84
New York Assay Office	39,250 00	23,038 50	8,685 16	.....	70,973 66
Helena Assay Office	7,950 00	11,389 55	7,998 93	.....	27,338 48
Boisé Assay Office	3,000 00	.....	4,973 34	.....	7,973 34
Charlotte Assay Office	2,750 00	.....	1,073 95	.....	4,723 95
Saint Louis Assay Office	3,500 00	.....	1,838 51	.....	5,338 51
Total	212,226 28	699,501 20	242,933 32	186,054 78	1,290,715 58

* Includes \$229.91 expended from reimbursements by Hawaiian Government for coinage dies.

† Includes \$173.35 from reimbursements for materials used.

In the appendix will be found the annual table of earnings and expenditures, showing the earnings, profits, and gains from all sources under their appropriate titles, and all expenditures and losses of every kind incurred during the year. The total amount earned was \$5,433,102.64, and the total expenditures and losses of all kinds amounted to \$1,676,002.73.

REFINERY EARNINGS AND EXPENDITURES.

The amount collected at the various mints and the New York Assay Office of depositors and sellers of bullion during the fiscal year, as charges for parting, refining, and toughening bullion, amounted to \$268,489.33. These charges are by law required to be used in paying the expenses of the operations, for which purpose the sum of \$247,798.79 was expended at the institutions named during the year.

The following statement shows the amount collected and expended for this purpose at each institution:

Institutions.	Charges collected.	Expenditures.
Philadelphia Mint	\$11,404 45	\$10,809 27
San Francisco Mint	134,106 25	132,579 53
Carson Mint	16,630 97	21,803 33
New Orleans Mint	738 63	34 77
New York Assay Office	105,609 03	83,071 89
Total	268,489 33	247,798 79

The balance remaining in the Treasury of the United States at the close of the fiscal year 1884 to the credit of the parting and refining appropriation, being the excess of the charges collected for those operations over the expenditures from the 1st of July, 1876, to June 30, 1884, was \$182,484.83.

PHILADELPHIA MINT.

The deposits and purchases of gold and silver bullion at this mint during the fiscal year 1884 amounted to \$16,802,750.40, being an increase over the previous year of nearly a million and a half.

The coinage of gold continued to fall off, being about \$5,000,000 less than in 1883, but the coinage of silver was \$1,500,000 more. The minor coinage executed was about the same as in the prior year.

In the melter and refiner's and coiner's departments about 3,000,000 more ounces of silver were treated than in 1883. The amount of gold

bullion operated was considerably less than in the prior year, being scarcely two-thirds. The ratio of wastage was about the same.

In preparing ingots, the melter and refiner operated upon 538,576.550 ounces of gold, making 109 melts, of which 6 were condemned, and 25,227,322 ounces of silver, making 8,281 melts, of which 47 were condemned.

The coiner received 538,576.550 ounces of gold ingots, of which he delivered in coin 27.8 per cent., and 25,047,074 ounces of silver, of which he delivered 47.2 per cent. in coin.

SAN FRANCISCO MINT.

On account of the declining production and import of gold on the Pacific coast, and the diminished purchase of silver bullion, in consequence of the accumulation of silver coin at San Francisco, the deposits and purchases of bullion, as well as the coinage of both gold and silver, and amount of bullion refined, were considerably less than in the previous year. The deposits and purchases in the fiscal year 1884 were \$30,458,125.14, as against \$35,328,140.74 in 1883. The number of pieces struck in 1884 was only 62,550 less in gold and 100,000 less in silver, including Hawaiian coinage, than in 1883; but the value of the gold coinage was \$3,216,500 less, and of silver, including the coinage for the Hawaiian Government, \$1,500,000 less, and 562,985 less ounces of bullion were received and operated upon at the refinery.

The melter and refiner again returned on settlement a surplus of gold bullion valued at \$15,896.89. His silver wastage was again heavy, amounting to 16,309 ounces of standard bullion, and but 264 ounces less than that of the previous year.

Upon careful examination to ascertain the cause of this wastage it seemed probable that it was occasioned by the greater proportional deposit of base silver bullion, upon which insufficient deductions had been made. To cover the unavoidable loss in refining such bullion instructions were given to increase the deductions on low-grade and refractory silver bullion.

The coinage authorized for the Hawaiian Government, of one million dollars in silver coins was executed in a satisfactory manner and completed before the close of the fiscal year.

CARSON MINT.

The gold deposits, coinage, and work at this mint varied but little from that of the previous year. A steady supply of silver has been purchased, mostly in lots of less than 10,000 ounces, and the silver coinage has averaged about \$100,000 per month.

During the year the melter and refiner made 56 melts of gold ingots, of which 6 were condemned, and 1,187 melts of silver ingots, of which 28 were condemned. The coiner operated upon 172,920.20 standard ounces of gold, and produced 86,654 standard ounces of coin, or 50.11 per cent., and upon 2,194,569.80 standard ounces of silver, and produced 1,000,312 standard ounces of coin, an average of 45.58 per cent.

MINT AT NEW ORLEANS.

No gold was coined at this mint during the year.

Standard silver dollars were struck of the value of \$8,905,000, being an increase of \$865,000 over their coinage in the previous fiscal year.

The melter and refiner operated on 15,457,500.70 standard ounces of silver, and made 1,818 melts, of which 10 were condemned.

The coiner operated on 15,128,638.30 standard ounces of silver ingots, from which were produced and delivered to the superintendent 50.5 per cent. in silver dollars.

NEW YORK ASSAY OFFICE.

The deposits of gold bullion at this institution during the year amounted to \$20,270,958.31, and of silver to \$6,297,114.84; a total of \$26,568,073.15. The deposits of gold exceeded those of the prior year by something over \$3,000,000, while the deposits of silver were about the same. Gold bars were manufactured for depositors of the value of \$20,891,428.98, and silver bars \$6,300,639.42. The gold bars manufactured exceeded in value those manufactured during the prior year by nearly \$5,000,000.

The melter and refiner has maintained the high reputation of his department. The surplus of gold and silver returned at the last annual settlement exceeded that of any previous year.

OTHER ASSAY OFFICES.

The deposits of gold at these institutions and also the bars manufactured, exceeded by a half million dollars those of the previous year.

The charges and other earnings were about \$4,000 more than in 1883, while the expenses were increased less than \$3,000.

EXAMINATIONS OF MINTS AND ASSAY OFFICES.

During or after the close of the fiscal year all of the mints and assay offices were officially visited by myself or representatives, and the methods of keeping the accounts and conducting the operations were examined.

The amount of moneys and bullion called for by the books was found upon actual count to be in the possession of the officers or satisfactorily accounted for.

At the close of the year the operative officers at the coinage mints and the New York Assay Office delivered under the supervision of the representatives of this office all the gold and silver in their possession to the several superintendents, and in no case was the deficiency in excess of the legal allowance for wastage. After the deliveries in settlement were completed the amount of coin and bullion in the hands of the superintendents was counted or weighed.

ANNUAL ASSAY.

The commissioners appointed under the provisions of section 3547 Revised Statutes for the purpose of making the annual trial of the coins reserved at the several mints, met at Philadelphia on the 13th of February last. They tested the weight and fineness of the coins taken from deliveries made by the coiners to the superintendents in each month of the year. The committee on weighing reported "that all the coins weighed are within the limits of exactness required by law, and that in fact very few vary from the standard by one-half the tolerance." The committee on assaying reported the greatest excess in the assay value of the gold coinage above the standard at the different mints to be as

stated in the following table (the limit of tolerance being one-thousandth):

At Philadelphia .....	.1 of .001
At San Francisco .....	.2 of .001
At New Orleans.....	No coin.
At Carson .....	.4 of .001

The greatest deficiency below the standard (the limit of tolerance being one-thousandth):

At Philadelphia .....	.5 of .001
At San Francisco .....	.5 of .001
At New Orleans .....	.3 of .001
At Carson.....	.0 of .001

Of silver, the maximum assay above the standard (the limit of allowance being three-thousandths):

At Philadelphia.....	1.3 of .001
At San Francisco.....	0.7 of .001
At New Orleans	1.1 of .001
At Carson.....	1.6 of .001

The greatest deficiency below the standard, the tolerance being the same (three-thousandths):

At Philadelphia.....	.9 of .001
At San Francisco	1.1 of .001
At New Orleans.....	1.1 of .001
At Carson.....	.9 of .001

The assay committee also assayed the inquartation silver, the copper, and the lead used in assaying gold bullion, and found them free from gold. The weights employed were carefully tested and found to be correct. The reagents were also examined with perfectly satisfactory results; whereupon the commission reported:

That the assay commission having examined and tested the reserved coins of the several mints for the year 1883, and it appearing that these coins are within the tolerance prescribed by law, the trial is considered and reported as satisfactory.

The proceedings of the annual assay commission show that the average fineness of 315 gold coins from the mints of Philadelphia, San Francisco, and Carson melted in mass, was 900 and of 49 single pieces 899.5. The assays made monthly in the assay laboratory of this Office gave an average for 40 pieces of 899.68.

The commission ascertained that the average fineness of 960 silver dollars of all the mints melted in mass was 900.6, and 70 single pieces taken from each month's coinage at each mint, 900.3.

The monthly tests made at the assay laboratory of 597 silver dollars gave an average fineness of 899.85.

The assays made by the commissioners and those made by the assayer of this Bureau show that the coinage for the year was close to the standard of fineness. Tables of the annual and monthly assays appear in the appendix.

MONETARY STATISTICS.

ESTIMATION OF THE VALUES OF FOREIGN COINS.

By section 3564 of the Revised Statutes it is made the duty of the Director of the Mint to estimate annually the values of the standard coins in circulation of the various nations of the world. For the purpose of ascertaining the circulation and the weight and fineness of the standard coins of foreign countries inquiries are annually made through

representatives of the United States in regard to the coinage and movement of the precious metals and the amount and character of the circulating medium. Upon the basis of such and other information the estimation required by law has been made.

In the estimation of the values proclaimed by the Secretary of the Treasury on the 1st of January, 1884, no changes were made in the values of foreign gold coins. The price of silver bullion having declined, a corresponding reduction was made in the value of the coins of those countries where silver coins are the standard of value, and whose currency is upon a silver basis.

For the reason stated, the value of the Austrian florin was reduced in the circular of January 1, 1884, from 40.1 to 39.8 cents; the boliviano of Bolivia from 81.2 to 80.6 cents; the peso of Ecuador and United States of Colombia and the sol of Peru from 81.2 to 80.6 cents; the rupee of India from 38.6 to 38.3 cents; the yen of Japan from 87.6 to 86.9 cents; the dollar of Mexico from 88.2 to 87.5 cents; the rouble of Russia from 65 to 64.5 cents, and the mahbub of Tripoli from 73.3 to 72.7 cents.

PRODUCTION OF GOLD AND SILVER IN THE UNITED STATES.

Inquiries to ascertain the production of the precious metals in the United States (for the expense attending which an appropriation is made by Congress for this Office) were continued as heretofore, and the facts collected and my conclusions as to the amount obtained from the mines of the United States during the year 1883 were submitted and published in a special report.

To estimate with any degree of accuracy the production of gold and silver it is necessary to ascertain the movement, consumption, or other disposition of the precious metals, and it seems, therefore, proper also to present succinctly the facts obtained in regard to the monetary condition of the country, and its metallic circulation, connected with the production, coinage, and circulation of the precious metals.

From my last special report the production of the several States and Territories in 1883 appears to have been as follows:

State or Territory.	Gold.	Silver.	Total.
Alaska.....	\$300,000	.....	\$300,000
Arizona.....	950,000	\$5,200,000	6,150,000
California.....	14,120,000	1,460,000	15,580,000
Colorado.....	4,100,000	17,370,000	21,470,000
Dakota.....	3,200,000	150,000	3,350,000
Georgia.....	199,000	1,000	200,000
Idaho.....	1,400,000	2,100,000	3,500,000
Montana.....	1,500,000	6,000,000	7,500,000
Nevada.....	2,520,000	5,430,000	7,950,000
New Mexico.....	280,000	2,845,000	3,125,000
North Carolina.....	167,000	3,000	170,000
Oregon.....	660,000	20,000	680,000
South Carolina.....	56,500	500	57,000
Utah.....	140,000	5,620,000	5,760,000
Virginia.....	6,000	.....	6,000
Washington.....	80,000	500	80,500
Wyoming.....	4,000	.....	4,000
Other (Alabama, Tennessee, &c.).....	17,500	.....	17,500
Total.....	30,000,000	45,200,000	75,200,000

This is a decline from the production of the previous year, in gold of two million five hundred thousand, and in silver of six hundred thou-

sand, and much more than I had anticipated in estimating in my last annual report the probable production of the year. It resulted chiefly from the interruption of hydraulic gold mining in California in many localities by mandate of the courts, at the instance of the owners of agricultural lands damaged by the deposit of *débris* and sediment in the valleys and on the bottom lands adjacent to the streams in the lower counties, and from the diminished yield of silver from some of the most productive mines of Arizona and Utah.

A comparison of the receipts of gold and silver at the mints and exports of domestic silver during the first eight months of the calendar years 1883 and 1884 indicates a decline in the yield of the mines of the United States during the present year of about \$1,000,000 in gold and a probable increase of \$2,000,000 in silver; for while the deposits of domestic gold for the first eight months in 1883 were \$20,265,384.34, for the corresponding period in 1884 they amounted to only \$19,584,511.64, a decline of \$680,872.70. During the same time the deposits and purchases of domestic silver varied but slightly, but the exports of domestic silver were about \$1,500,000 greater in 1884 than in 1883. On the other hand the reported production of thirty silver mines, as published in the mining journals, shows a diminished yield of over a million of dollars.

It seems probable that the full returns of production at the close of the year will show a production by the mines of the United States of \$29,000,000 of gold and of silver at its standard dollar coining rate of nearly \$48,000,000.

CONSUMPTION OF GOLD AND SILVER IN UNITED STATES.

For the purpose of obtaining more complete information in regard to the use of the precious metals in the arts and ornamentation, circular letters to the number of 7,969 were again sent to all persons and firms in the United States whose address could be obtained reported to be using and consuming the precious metals for industrial purposes.

To these letters 5,418 replies were received, which showed the consumption by 2,734 persons and firms engaged in the manufacturing or the repair of articles of ornamentation and use of nearly \$14,500,000 worth of gold, and over \$5,500,000 worth of silver, a total of over \$20,000,000. This is an increase of \$7,000,000 over that reported in 1882, when, however, less than half as many persons and firms reported. The Superintendent of the United States Assay Office at New York states that the value of the bars furnished presumably for use in the arts and manufactures during the fiscal year 1883 was, gold, \$4,615,118; silver, \$5,205,996; total \$9,821,114. The value of the bullion, consisting of stamped United States or refinery bars, reported by manufacturers to have been used, was of gold \$7,137,761, and of silver \$4,552,172. This would indicate an increased use of gold and silver in ornamentation and for industrial purposes, especially in United States gold coin and of United States or refinery bars, as reports show over seven millions of stamped United States or refinery bars used by the manufacturers. It would seem probable that six millions of this is gold bullion of domestic production, and that four and a half millions of the silver produced in the United States during the last calendar year were appropriated for use in the arts.

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CIRCULATION OF THE UNITED STATES.

Upon the basis of the annual gains by coinage and import of coin, less the losses by recoinage, export, and consumption in the arts, I estimated in my last annual report the coin circulation of the United States at the close of the last fiscal year to have been about \$765,000,000, of which \$537,000,000 was gold, and \$228,000,000 silver. Upon the same basis I estimate the coin circulation on the first of July, 1884, to have been \$802,000,000, of which \$250,000,000 was silver, and nearly \$552,000,000 gold.

In arriving at these figures I have deducted from the silver circulation six million out of the seven millions of trade dollars heretofore estimated to constitute a part of the silver circulation, and \$4,875,000 gold coin reported to have been used in the arts, which exceeds the similar deduction for 1883 by \$2,375,000.

The net gain to the coin circulation was \$14,000,000 in gold and \$22,000,000 in silver, as appears from the following table giving the exact figures of the gains and losses during the year:

United States coin.	Gold.	Silver.	Total.
Circulation July 1, 1883	\$537 254, 704	\$228, 216, 190	\$765, 470, 894
Year's coinage.	27, 932, 824	28, 773, 388	56, 706, 212
Total.....	565, 187, 618	256, 989, 577	822, 177, 205
Less net exports	8, 417, 050	4, 190	8, 421, 258
Deposits for recoinage.....	263, 117	152, 031	415, 148
Used in the arts	4, 875, 000	216, 000	5, 091, 000
Trade dollars withdrawn from circulation.....	.....	6, 000, 000	6, 000, 000
Total loss	13, 555, 176	6, 372, 230	19, 927, 406
Circulation July 1, 1884	551, 632, 442	250, 617, 357	802, 249, 799
Net gain during the year.....	14, 377, 648	22, 401, 158	36, 778, 806

This circulation, from the statements of the Treasurer and Comptroller of the Currency for the periods nearest to the 1st of July, would appear to have been owned on July 1, 1884, as follows:

Belonging to—	Gold.	Silver.			Total United States gold and silver coins.
		Legal tender.	Subsidiary.	Total.	
Treasury.....	*\$80, 190, 346	*\$30, 133, 905	\$29, 600, 720	\$88, 734, 625	\$157, 924, 971
National banks.....	†97, 082, 848	18, 078, 833	‡3, 000, 000	11, 078, 833	109, 061, 681
Other banks.....	‡30, 000, 000	} 127, 243, 091	42, 660, 808	100, 903, 899	534, 663, 147
Private hands.....	834, 759, 248				
Total.....	551 632, 442	175, 355, 829	75, 261, 528	250, 617, 357	802, 249, 799

* Less outstanding certificates. † Includes Treasury and clearing-house certificates. ‡ Estimated.

In computing the above table I have deducted from the coin in the Treasury and added to that in banks and the hands of private parties the amount of the gold and silver certificates outstanding, for the payment of which the law requires a corresponding amount of coin to be held in the Treasury.

The coinage from July 1 to October 1 was, of gold \$6,876,299, and

silver \$7,097,000. The deposits of United States coin at the mints and assay offices were, gold \$69,180 and silver \$271,550, making the net gain from coinage, less recoinage, \$6,807,119 gold and \$6,825,450 silver. The net imports of United States gold coin were \$368,880, and the net export of silver coins \$193,100. Estimating the consumption in the arts at \$1,220,000 gold and \$50,000 silver, one-fourth of the amount reported for the previous year, leaves the circulation of United States coin on the 1st of October instant gold \$557,500,000 and silver \$257,000,000, a total of \$814,500,000, as appears from the following tabular statement :

GAIN in COIN from JULY 1 to OCTOBER 1, 1884.

Items.	Gold.	Silver.	Total.
Circulation July 1, 1884	\$551, 032, 442	\$250, 617, 357	\$802, 249, 799
Coinage (less recoinage) to October 1, 1884	6, 807, 119	6, 825, 450	13, 632, 569
Net imports.....	368, 880	.....	368, 880
Total.....	558, 808, 441	257, 442, 807	816, 251, 248
Less used in the arts and manufactures	1, 220, 000	50, 000	1, 270, 000
Net exports .....	.....	193, 100	193, 100
Total.....	1, 220, 000	243, 100	1, 463, 100
Circulation October 1, 1884	557, 588, 441	257, 199, 707	814, 788, 148

This does not include the bullion in the Treasury belonging to the Government and held for coinage, which amounted on the 1st of October to \$52,950,000 of gold and \$4,935,000 of silver bullion, which may be properly considered a portion of the Treasury reserve, and would make the total amount of coin and bullion available for coinage at that date, gold \$610,500,000 and silver \$262,000,000, being a total of \$872,500,000. The following table, compiled from the published statements of the Treasurer of the United States and the Comptroller of the Currency, so far as relates to the money in the Treasury and in national banks, shows the character and possession of the circulating medium of the United States on the 1st of July 1884:

STATE of CIRCULATION JULY 1, 1884.

	In Treasury.	In national banks.	In other banks and general circulation.	Total.
Gold bullion	\$44, 193, 050	.....	.....	\$44, 193, 050
Silver bullion	4, 935, 785	.....	.....	4, 935, 785
Gold coin	100, 335, 980	\$71, 045, 738	\$320, 249, 718	551, 632, 442
Silver dollars	135, 560, 916	6, 117, 332	33, 677, 080	175, 355, 328
Fractional silver coin	29, 600, 720	*3, 000, 000	42, 600, 808	75, 201, 528
Gold certificates	27, 246, 020	26, 637, 110	44, 500, 530	98, 392, 660
Silver certificates	23, 384, 680	2, 861, 000	93, 566, 011	119, 811, 691
United States notes.....	40, 183, 801	76, 917, 212	229, 638, 443	346, 739, 456
National bank notes	8, 809, 990	23, 386, 095	307, 753, 158	339, 950, 543
Fractional currency	7, 027	473, 046	6, 499, 988	6, 980, 061
Total	474, 273, 975	210, 438, 634	1, 078, 555, 436	1, 763, 268, 045

* Estimated.

From the 1st of July to the 1st of October an increased amount of gold and silver coin and gold and silver certificates was in circulation as well as held by the Treasury as shown by the following statement:

STATE of TOTAL UNITED STATES CIRCULATION OCTOBER 1, 1884.

	● In Treasury.	In banks and general cir- culation.	Total.
Gold bullion	\$52,940,887	.....	\$52,940,887
Silver bullion	4,834,404	.....	4,834,404
Gold coin	164,957,456	\$202,630,900	557,588,441
Silver dollars.....	142,058,787	40,322,042	182,380,829
Fractional silver coin	29,474,160	45,344,718	74,818,878
Gold certificates.....	83,546,900	87,389,660	120,936,560
Silver certificates.....	26,769,476	98,491,251	125,260,727
United States notes	36,524,872	310,214,484	346,739,356
National bank notes.....	11,076,957	824,750,271	835,827,228
Fractional currency.....	7,103	6,970,155	6,977,258
Total.....	502,208,767	1,804,113,567	1,606,412,324

Assuming the amount of paper and specie in the national banks to have been the same October 1 as on June 22, the amount held by the public and banks, other than national, on October 1, 1884, was about \$1,094,000,000, or over \$15,000,000 more than on July 1, 1884.

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I am, very respectfully,

HORATIO O. BURCHARD,
Director.

Hon. WALTER Q. GRESHAM,
Secretary of the Treasury.

REPORT OF FIRST COMPTROLLER OF THE TREASURY.

TREASURY DEPARTMENT,
FIRST COMPTROLLER'S OFFICE,
Washington, October 31, 1884.

SIR: In compliance with the request made in your letter of September 13, 1884, I have the honor to submit the following report of the transactions of this office during the fiscal year which ended June 30, 1884.

The following-described warrants were received, examined, countersigned, entered into blotters, and posted into ledgers under their proper heads of appropriations:

Kind	Number of war- rants.	Amounts.
APPROPRIATION.		
Treasury proper.....	33	\$80,313, 238 08
Public debt	1	315,090, 413 08
Diplomatic and consular.....	1	1,217, 636 00
Customs	11	20,416, 911 07
Internal revenue	6	0,329, 226 63
Interior civil	9	8,935, 666 84
Indians and pensions	32	41,061, 416 15
War	21	84,270, 489 41
Navy.....	9	15,833, 121 99
	123	559,003, 018 13
ACCOUNTABLE AND SETTLEMENT.		
Treasury proper.....	3, 630	24,402, 885 60
Public debt	68	115,499, 440 98
Quarterly salaries	1,840	582, 332 58
Diplomatic and consular.....	3,010	1,424, 549 33
Customs	2,670	23,696, 061 75
Internal revenue.....	8,241	8,678, 999 49
Judiciary	1,206	2,253, 918 06
Interior civil.....	2,846	8,688, 329 14
Indians and pensions.....	4,452	78,656 282 03
War	8,718	40,980, 442 78
Navy	2,530	23,696, 657 31
	37,085	633,067, 602 05
COVERING.		
Indians and pensions repay.....	619	16,650, 054 70
War repay	1,831	1,650, 819 42
Navy repay.....	342	0,413, 054 67
Miscellaneous repay: Interior civil, Treasury, customs, judiciary, diplo- matic and consular, internal revenue, and public lands.....	2,514	3,823, 080 38
	5,328	22,437, 016 57
Miscellaneous revenue covering warrants.....	10,362	228,833, 488 64
Customs covering warrants.....	1,686	105,067, 489 76
Internal-revenue covering warrants.....	1,473	121,686, 072 61
Land covering warrants	1,410	0,810, 705 01
	14,831	555,397, 755 92

RECAPITULATION.

Pay, repay, and appropriation warrants.....	42, 534
Miscellaneous and internal revenue and lands and customs covering.....	14, 831
Total warrants received and passed.....	57, 365
Miscellaneous requisitions registered and countersigned.....	831
Requisitions on chief clerk and stationery clerk of the Department.....	331
Grand total	58, 567

Accounts have been received from the auditing offices, revised, recorded, and the balances thereon certified to the Register of the Treasury, as follows:

Kind.	No. of accounts.	No. of vouchers.	Amount involved.
FROM THE FIRST AUDITOR.			
1. Judiciary:			
Accounts of marshals for their fees and for expenses of courts, of district attorneys and their assistants, of clerks of courts, of circuit court commissioners, and accounts for rent of court-rooms	4, 624	112, 903	\$5, 539, 162 21
Judgments by Court of Claims examined and ordered paid.....	12	12	83, 999 55
Total.....	4, 636	112, 975	5, 572, 161 76
2. Public Debt:			
Accounts of the Treasury of the United States:			
For coupons payable in coin.....	126	1, 908, 621	10, 447, 738 97
For coupons of Treasury notes, Louisville and Portland Canal stock, and old funded debt of the District of Columbia.....	35	47, 840	744, 930 10
For bonds of the District of Columbia purchased for sinking funds	5	733	291, 575 09
For United States bonds redeemed.....	28	24, 042	94, 390, 355 34
For Louisville and Portland Canal stock	1	3	3, 000 00
For unclaimed interest.....	4	9	3, 118 00
For interest on Pacific Railroad stock (reimbursable).....	12	790	1, 550, 866 00
For checks for interest on the public debt	252	300, 256	56, 071, 977 60
For gold certificates and refunding certificates.....	25	8, 798	573, 354 72
For certificates of deposit (act June 8, 1872.....	13	3, 018	27, 630, 000 00
For legal-tender notes, old demand notes, fractional currency, silver certificates, and gold certificates (act July 12, 1862)	62	2, 146	142, 386, 431 86
For compound-interest, seven-thirty, and other old Treasury notes.....	43	370	15, 097 26
For interest on Navy pension fund.....	1	1	630, 000 00
For sinking fund for bonds of the Union Pacific Railroad Company	1	6	1, 608, 925 00
	608	2, 410, 033	337, 013, 370 84
3. Public Buildings:			
Accounts for the construction of public buildings throughout the United States, the fire-proof building for the Pension Office, and the buildings for State, War, and Navy Departments; for reconstructing the eastern portion of the Smithsonian Institution, the completion of the Washington Monument, the care of public buildings and grounds under the Chief of Engineers, U. S. A.; for annual repairs of the Capitol and improving the Capitol grounds; for coast and geodetic surveys, the World's Industrial and Cotton Centennial Exposition at New Orleans, and for the beneficiary institutions in the District of Columbia	790	26, 613	3, 080, 761 32
4. Steamboats:			
Accounts for salaries and incidental expenses of inspectors of hulls and boilers.....	1, 156	13, 367	250, 000 00
5. Territorial:			
Accounts for salaries of territorial officers and for the legislative and contingent expenses incidental to the government of the Territories.....	471	4, 994	288, 434. 00
6. Mint and Assay:			
Accounts for gold, silver, and nickel coinage; for bullion; for salaries of the officers and employes of the several mints, and for the general expenses of the same; and for bullion deposits, purchases and transfers.....	332	114, 740	138, 435 039 12

Kind.	No. of accounts.	No. of vouchers.	Amount in- volved.
FROM THE FIRST AUDITOR--continued.			
7. Transportation:			
Accounts for transportation of gold and silver coin, and bullion; minor and base coin, United States currency, national-bank notes, complete, and incomplete coin certificates; registered and coupon bonds; mutilated currency; canceled and incomplete securities; national-bank notes for redemption; stamp, paper, stationery, boxes, parcels, &c.....	202	61, 627	\$161, 980 22
8. Congressional:			
Accounts for the officers and employes, and for contingent and other expenses of the United States Senate and House of Representatives.....	86	4, 230	704, 644 10
9. Outstanding Liabilities:			
Accounts arising from demands for payment of drafts and disbursing-officers' checks, which have remained outstanding for three years, the funds from which they were payable having been covered into the Treasury.....	112	148	42, 248 04
10. District of Columbia:			
Accounts of the Commissioners of the District of Columbia, and general accounts between the United States, and said District.....	250	72, 776	6, 627, 620 70
11. Public Printing:			
Accounts of the Public Printer for the salaries and wages of the employes of the Government Printing Office; for the purchase of materials for printing, and for contingent expenses of the Government Printing Office.....	186	41, 872	2, 336, 440 08
12. Treasurer's General Accounts:			
Quarterly accounts of the Treasurer of the United States for receipts and expenditures, including receipts from all sources covered into the Treasury, and all payments made from the Treasury.....	8	42, 615	1, 392, 418, 175 86
13. Assistant Treasurers' Accounts:			
Accounts of the several assistant treasurers of the United States for the salaries of their employes and the incidental expenses of their offices.....	61	1, 907	247, 700 98
14. Miscellaneous:			
Accounts of the disbursing officers of the Executive Departments for salaries of officers and employes, and contingent expenses of the same; accounts for salaries of Senators and Representatives in Congress; for salaries of the judges of the United States Supreme Court, United States circuit and district judges, district attorneys, and marshals; for salaries and contingent expenses of the National Board of Health; and for the expenses of the tenth census.....	5, 028	890, 827	23, 836, 451 06
Total from First Auditor.....	18, 919	8, 804, 162	1, 912, 014, 947 58
FROM THE FIFTH AUDITOR.			
15. Internal Revenue:			
Accounts of collectors of internal revenue.....	469	43, 398	283, 142, 908 73
Accounts of same acting as disbursing agents.....	814	88, 533	8, 174, 044 42
Accounts of internal-revenue stamp agents.....	68	1, 676	251, 878 06
Miscellaneous internal-revenue accounts, including direct-tax accounts with the States, and with direct-tax commissioners; accounts with collectors for disbursements under the appropriation for punishment for violation of internal-revenue laws, and for expenses of seizure and sale of property for the violation of said laws; seven different monthly accounts with the Commissioner of Internal Revenue for internal-revenue stamps; accounts with the Secretary of the Treasury for deposits made in compromise cases, and for fines, penalties, and forfeitures; accounts with Treasury Department for stationery furnished to internal-revenue officers; accounts with the disbursing clerk for payment of internal-revenue agents and gangers, and for disbursements under three other different appropriations; accounts for refunding taxes illegally collected, and taxes on spirits de-			

Kind.	No. of accounts.	No. of vouchers.	Amount involved
FROM THE FIFTH AUDITOR—continued.			
15. Internal Revenue—Continued.			
stroyed, and for the redemption of internal-revenue stamps; accounts for rewards for information and other expenses of detecting and suppressing violations of internal revenue laws; expense accounts of revenue agents and distillery surveyors; also drawback accounts, and accounts for paper for internal-revenue stamps; for transportation of stationery, and for purchasing hydrometers, and stamps and dies, and locks and seals, &c.....	6,405	64,206	\$26,400,171 18
16. Foreign Intercourse:			
Accounts for the salaries of ministers, chargés d'affaires, consuls, commercial agents, interpreters, secretaries to legations, and marshals of consular courts; accounts for the relief and protection of American seamen, for expenses of prisons in China and Japan, for contingent expenses and clerk-hire of legations and consulates, for salaries and expenses of mixed commissions; accounts of United States bankers in London; accounts of the disbursing clerk, Department of State, for miscellaneous diplomatic expenses, &c.....	2,694	52,128	6,687,704 03
17. Transportation:			
Accounts for transportation of internal-revenue moneys to the subtreasuries and designated depositories, and for the transportation of stationery, &c., to internal-revenue officers.....	25	8,677	6,432 94
Total from Fifth Auditor	10,465	198,518	819,511,024 96
FROM THE COMMISSIONER OF THE GENERAL LAND OFFICE.			
18. Public Lands:			
Accounts of surveyors-general and the employees in their offices.....	240	2,790	260,121 43
Accounts of deputy surveyors.....	595	1,001	1,422,726 40
Accounts of receivers of public moneys.....	556	14,816	7,683,496 20
Accounts of same acting as disbursing agents.....	500	2,217	643,421 45
Accounts for the refunding of purchase money paid for lands erroneously sold	620	4,725	29,980 29
Miscellaneous accounts, such as accounts with the several States for indemnity for swamp and overflowed lands erroneously sold, and for 2 per cent., 3 per cent., and 5 per cent. upon the proceeds of sales of public lands; accounts of surveyors-general for the contingent expenses of their offices; accounts for the salaries and commissions of registers of local land offices not paid by the receivers; accounts with the Kansas, Denver, Central, Northern, and Union Pacific Railroads for the transportation of special agents of the General Land Office; accounts for printing and stationery furnished the several surveyors-general, registers, and receivers; accounts of special agents of the Interior Department; accounts for the transportation of public moneys from the local land offices to designated depositories; accounts for salaries and incidental expenses of agents employed to examine and verify public surveys, for the return of deposits in excess of the amount required for the survey of private land claims, for the transportation of stationery to the several district land-offices, &c.....	844	8,097	1,287,043 28
Total from Commissioner of General Land Office.....	2,363	23,146	11,526,809 06

RECAPITULATION.

From—	Number.	Vouchers.	Amount involved.
Fifth Auditor	13,319	2,204,162	\$1,212,614,947 72
Fifth Auditor	19,445	198,518	219,511,024 96
Commissioner of General Land Office	2,363	23,146	11,526,809 06
Total.....	27,747	2,505,826	2,243,652,281 74

Requisitions for the advance of money from the Treasury, in the number following, have been examined and advances thereon recommended:

Internal revenue.....	1, 093
Foreign intercourse.....	1, 621
Judiciary.....	529
Public buildings.....	172
Mint and assay.....	320
District of Columbia.....	98
Territorial.....	58
Public printing.....	142
Miscellaneous.....	169
Total.....	4, 262

	Schedules.	Claims.	Vouchers.	Amount.
Rebate of tax on tobacco of manufacturers, payable in stamps.....	154	990	5, 627	\$192, 312 55
Rebate of tax on tobacco of dealers, payable out of appropriation.....	647	45, 802	229, 010	3, 537, 538 55
Total.....	801	46, 792	234, 637	3, 729, 851 10

JURISDICTION TO REQUIRE STATEMENTS OF ACCOUNTS.

Section 236 of the Revised Statutes provides that—

“All claims and demands whatever by the United States or against them, and all accounts whatever in which the United States are concerned, either as debtors or as creditors, shall be settled and adjusted in the Department of the Treasury.”

It may sometimes happen that the First Comptroller, in the examination of an account, or otherwise, will ascertain that some party is indebted to the United States against whom an account should be stated by an auditing officer, in order that a balance may be certified as due to the United States from such party. Thus, if a party having money due to him from the United States is surety on the bond of a defaulting officer, it is only just that an account should be stated against such officer and surety in order that a set-off may be made. In those cases in which the salary of any officer should be retained to meet his liability as surety on the bond of a defaulting officer, it becomes necessary that accounts be stated (*McKnight v. United States*, 98 U. S., 185; *Pease’s Case*, 4 Lawrence, Compt. Dec., 502). The First Comptroller has no jurisdiction to settle an account until it has been stated by the proper auditing officer (15 Op. Att.-Gen., 139).

It is provided by section 271 of the Revised Statutes that—

“The First Comptroller, in every case where, in his opinion, further delays would be injurious to the United States, shall direct the First and Fifth Auditors of the Treasury forthwith to audit and settle any particular account which such officers may be authorized to audit and settle, and to report such settlement for revision and final decision by the First Comptroller.”

This section, it is believed, should extend to all accounts over which the First Comptroller has jurisdiction. And, if any doubt exists as to its proper construction, which seems probable, it is respectfully suggested that said section should be so amended as to authorize the Comptroller to direct the proper auditing officer to state any account in favor of or against the United States which it may be lawful for him to state.

AUTHORITY TO REQUIRE AND OBTAIN EVIDENCE.

In some instances it has been found that disbursing officers and others have, on request, neglected or refused to furnish the accounting officers with evidence in the possession of the former, essential to a proper adjustment of their accounts. The Revised Statutes contain certain provisions for obtaining evidence in relation to claims "against the United States" (Rev. Stat., 183-187). These provisions do not seem adequate to secure evidence, either in the classes of cases mentioned or as to claims in favor of the United States. Attention is called to this subject as one worthy of consideration, with a view of securing suitable legislation in relation thereto.

REPORTS UNDER SECTION 272 OF THE REVISED STATUTES.

Section 272 of the Revised Statutes provides that—

"The First Comptroller shall make an annual report to Congress of such officers as shall have failed to make settlement of their accounts for the preceding fiscal year, within the year, or within such further time as may have been prescribed by the Secretary of the Treasury for such settlement."

In my annual report for the fiscal year which ended June 30, 1881, I called attention to the fact that no report had ever been made under this section, and to the impracticable nature of the requirement thereof. If the reports required by it could be made, they would more frequently than otherwise present honest and efficient officers as apparently defaulters when not really so, and thus would do great injustice.

A resolution of the Senate, dated February 9, 1876, called on the Secretary of the Treasury for a detailed statement of balances due from public officers no longer in the public service, which had arisen since 1830. The Secretary made the statement, but the Senate did not order it to be printed (Congressional Record, Forty-fourth Congress, first session, pp. 4136-4161).

Section 272 of the Revised Statutes should, however, be complied with, if practicable. It is taken from section 13 of the act of March 3, 1817 (3 Stat., 368), providing "for the prompt settlement of public accounts," which enacted that—

"It shall be the duty of the First Comptroller to lay before Congress annually, during the first week of their session, a *list of such officers* as shall have failed *in that year* to make the settlement [of their accounts] required by law."

This does not seem to require any statement concerning those officers whose accounts have been settled, and against whom balances have been found.

Prior to the passage of this act there was but one Comptroller, and the accounts of all public officers passed through his office, so that he had the superintendence of the records showing all such officers whose accounts remained unsettled (act September 2, 1789, 1 Stat., 66; act February 20, 1792, 1 Stat., 234; act March 13, 1825, 4 Stat., 102). There was then no Commissioner of Customs, who is also a Comptroller (act March 3, 1849, 9 Stat., 396, sec. 12). The office of Auditor of the Treasury for the Post-Office Department was created by the act of July 2, 1836 (5 Stat., 81, sec. 8).

Among the difficulties of making the statement required by section 272 of the Revised Statutes are these: It is impossible for public officers "to make settlement of their accounts for the *preceding* fiscal year, *within the year*." Then, again, the First Comptroller does not now have

the superintendence, by way of "adjustment and preservation," of all the public accounts subject to the revision of the Second Comptroller, the Commissioner of Customs, or the Auditor of the Treasury for the Post-Office Department (Rev. Stat., 269, par. second). If Congress shall be of the opinion that the First Comptroller must make the report required by section 272 of the Revised Statutes, it will be well to consider whether provision should not be made requiring the requisite information to be furnished to said officer. This seems advisable, at least, to remove all doubt as to the obligation to furnish such report. The Second Comptroller, the Commissioner of Customs, and the Auditor of the Treasury for the Post-Office Department, have recently been requested to furnish, if practicable, the information necessary to enable the First Comptroller to comply with the now impracticable requirement of section 272 of the Revised Statutes. And I have directed the chiefs of divisions in this office to prepare, so far as practicable, information on the same subject, so that the whole matter may be laid before Congress, if required, by either House, or by any committee thereof, or by the Secretary of the Treasury.

ADDITIONAL PENAL PROVISIONS.

The accounting and other officers in the Treasury Department are respectively required to affix their signatures to a vast multitude of papers in the examination and allowance of claims, or for the purpose of making payments thereof. It is not possible for the officers so signing to personally examine all the papers relating to each claim. It is respectfully suggested that there should be proper penal legislation against persons guilty of fraudulently preparing, or being concerned in preparing, any unauthorized or illegal papers relating to claims, or of fraudulently attempting to procure an official signature thereto. An instance of this sort recently occurred in this office, in the division of public land accounts, in connection with a claim in favor of the State of Florida.

EXTRA COMPENSATION AND PAY FOR EXTRA SERVICES.

Sections 1763, 1764, and 1765 of the Revised Statutes, and section 3 of the act of June 20, 1874 (18 Stat., 109) contain provisions which would seem designed to prohibit extra compensation, as also pay for extra services, to officers and employés in the public service who receive fixed salaries or compensation. So many different and conflicting constructions have been given to these provisions, that it is believed to be important that Congress should re-enact them in such definite form as will leave no ground for doubt as to what the law is.

DISTRICT OF COLUMBIA TEN PER CENT. GUARANTEE FUND.

The amount realized from the sale of the bonds, in which the ten per centum retained from contractors in the District of Columbia was invested as required by the Act of June 11, 1878 (20 Stat., 106), has exceeded the sum necessary to pay the amounts originally withheld, owing to the advance in the securities in which the investments were made.

The surplus has been covered into the Treasury as Miscellaneous Receipts on account of Proceeds of Sales of Guarantee Fund, District of Columbia (Rev. Stat., 3618). One-half the amount originally retained was paid by the United States, and one-half by the District of Columbia.

It is, therefore, recommended that Congress be advised to appropri-

ate the surplus for expenses of the District (Guarantee-Fund Case, 5 Lawrence, Compt. Dec., 209, 231).

I respectfully renew the recommendations made in former reports, and again invite attention to what is said in my last annual report in relation to the Comptroller's decisions for 1880 and 1881.

I have the honor to be, very respectfully,

WILLIAM LAWRENCE,
First Comptroller.

The Hon. HUGH McCULLOCH,
Secretary of the Treasury.

REPORT OF SECOND COMPTROLLER OF THE TREASURY.

TREASURY DEPARTMENT,
SECOND COMPTROLLER'S OFFICE,
Washington, D. C., October 31, 1884.

SIR: In compliance with the direction contained in your letter of the 13th ultimo, I have the honor to submit the following report of the transactions of this office during the fiscal year which ended on the 30th of June, 1884:

This report is condensed into two tabular statements. The first shows the total number of accounts, claims, and cases of every kind, settled and adjusted, and the amounts allowed thereon. The second statement furnishes a more detailed summary of the same accounts, claims, and cases, showing the character of the same, the source from which received, the number of each kind, and the several amounts allowed.

A still more detailed statement has been prepared and filed for preservation in this office, but it is deemed too voluminous for publication.

TOTAL NUMBER of ACCOUNTS and CLAIMS SETTLED.

From—	Number.	Amount allowed.
Second Auditor.....	14,866	\$15,484,547
Third Auditor.....	7,872	72,121,870
Fourth Auditor.....	1,905	14,995,500
Total.....	24,733	102,601,916
Various sources, not involving present expenditure.....	8,047	48,426
Grand total.....	27,780	102,650,412

ACCOUNTS REVISED and SETTLED during the year.

Character of the accounts.	Number.	Amounts allowed.
FROM THE SECOND AUDITOR.		
1. Of Army paymasters, for pay of the Army.....	246	\$5,183,075
2. Of disbursing officers of the Ordnance Department, for ordnance, ordnance stores, supplies, armories, and arsenals.....	813	2,426,452
3. Of recruiting officers, for regular recruiting service.....	278	253,031
4. Of disbursing officers of the Medical Department, for medical and hospital supplies and services.....	11	9,863
5. Of miscellaneous disbursements for contingent expenses of the Army, Adjutant-General's and Commanding General's Offices, Artillery School, &c.....	171	255,125

ACCOUNTS REVISED and SETTLED during the year—Continued.

Character of the accounts.	Number.	Amount allowed.
FROM THE SECOND AUDITOR—Continued.		
6. Special Army accounts	374	\$64, 440
7. Of Indian agents' current and contingent expenses, annuities, and install- ments	219	2, 018, 088
Total.....	1, 612	10, 175, 994
FROM THE THIRD AUDITOR.		
1. Of disbursing officers of the Quartermaster's Department, for regular and incidental expenses	1, 484	14, 911, 187
2. Of disbursing officers of the Subsistence Department	479	2, 627, 529
3. Of disbursing officers of the Engineer's Department, for military surveys, fortifications, river and harbor improvements, &c	91	16, 581, 789
4. Of disbursing officers of the Signal Service.....	83	204, 650
5. Of pension agents, for payment of Army pensions.....	161	34, 733, 279
Total.....	2, 298	69, 061, 434
FROM THE FOURTH AUDITOR.		
1. Of paymasters of the Navy, paymasters at navy-yards, Navy agents, and other disbursing officers.....	331	13, 044, 828
2. Of disbursing officers and agents of the Marine Corps.....	11	706, 040
3. Of Navy pension agents, for payment of pensioners of the Navy and Marine Corps	51	958, 807
4. Of miscellaneous naval accounts	136	49, 725
Total.....	529	14, 759, 400

CLAIMS SETTLED during the year.

Character of the claims.	Number settled.	Amounts allowed.
FROM THE SECOND AUDITOR.		
1. Soldiers' pay and bounty.....	10, 331	\$647, 716
2. Miscellaneous, of Army pay department.....	426	49, 231
3. In favor of the Soldiers' Home.....	112	345, 026
4. Miscellaneous, Indian claims.....	2, 895	4, 266, 580
FROM THE THIRD AUDITOR.		
1. For quartermasters' stores and commissary supplies, under the act of July 4, 1864	920	201, 627
2. For lost property, under the act of March 3, 1849	761	158, 161
3. State war claims, act of 1861, &c.....	6	216, 643
4. For Army transportation	850	2, 118, 825
5. General miscellaneous claims	1, 242	262, 918
6. Oregon and Washington Territory war claims	11	1, 775
7. For reimbursement expenses of last sickness, &c., account deceased pen- sioners	1, 394	100, 487
8. Claims examined and disallowed	390	.....
FROM THE FOURTH AUDITOR.		
1. For officers' and sailors' back pay and bounty and prize money.....	1, 466	236, 169
Total.....	20, 294	8, 605, 158

CASES ADJUSTED, NOT INVOLVING PRESENT EXPENDITURE.

Character of the claims.	Number.	Amounts involved.
1. Duplicate checks approved	556	\$37, 070
2. Referred cases adjusted and decided	2, 489	.....
3. Financial agents' accounts—naval.....	2	10, 756
Total.....	3, 047	48, 426

Bonds filed during the year	90
Contracts filed during the year.....	1,834
Official letters written and copied	1,670
Requisitions countersigned and recorded	13,275
Settlements recorded.....	10,454
Differences recorded	4,397
Clerks employed (average)	77½

A large amount of additional official work has been performed, which cannot be presented in tabular form, such, for example, as the investigation and decision of legal questions arising in the adjustment of accounts, and in many cases referred for decision from the several Departments that report to this office; decisions as to rights of heirs, executors, administrators, and other legal representatives of deceased claimants; questions arising on powers of attorney, and in contests of attorneys for claimants; answering calls for information from Congress, the Departments, and private persons. Many of these matters require and have received careful attention from the several chiefs of divisions, as well as from the Comptroller and his deputy.

All the public business intrusted to my charge during the year has been, I believe, promptly and properly attended to by the officers and clerks of the office, and has progressed with reasonable dispatch.

Very respectfully,

W. W. UPTON,
Comptroller.

Hon. HUGH McCULLOCH,
Secretary of the Treasury.

REPORT OF THE COMMISSIONER OF CUSTOMS.

TREASURY DEPARTMENT,
OFFICE OF COMMISSIONER OF CUSTOMS,
Washington City, D. C., October 29, 1884.

SIR: I have the honor to submit herewith for your information a statement of the work performed in this office during the fiscal year ending June 30, 1884:

Number of accounts on hand July 1, 1883.....	93
Number of accounts received from the First Auditor during the year.....	5,932
	<hr/> 6,025
Number of accounts adjusted during the year	5,857
Number of accounts returned to the First Auditor.....	13
	<hr/> 5,870
Number of accounts on hand June 30, 1884.....	<hr/> 155

There was paid into the Treasury from sources the accounts relating to which are settled in this office: .

On account of customs.....	\$195,067,489 76
On account of marine hospital tax	415,523 75
On account of steamboat fees.....	183,755 10
On account of fines, penalties, and forfeitures	78,496 90
On account of storage, fees, &c.....	766,984 94
On account of emolument fees.....	227,693 02
On account of immigrant fund.....	224,286 50
On account of interest on debts due.....	100 62

On account of rent of public buildings.....	\$8,829 40
On account of mileage of examiners.....	1,490 60
On account of relief of sick and disabled seamen.....	5,824 84
On account of deceased passengers.....	1,050 00
On account of proceeds of Government property.....	20,117 32
Aggregate	197,001,702 75

And there was paid out of the Treasury on the following accounts:

Expenses of collecting the revenue from customs	\$6,709,485 76
Excess of deposits.....	5,063,449 17
Debentures	3,651,013 74
Construction, &c., of public buildings	2,405,336 29
Construction and maintenance of lights.....	2,330,549 57
Construction and maintenance of revenue-cutters	930,216 97
Life-saving stations.....	811,968 19
Marine hospital service.....	465,387 45
Expenses of regulating immigration	235,443 86
Detection and prevention of frauds upon the customs revenue.....	66,482 65
Inspection of neat cattle shipped to foreign ports	47,574 70
Compensation in lieu of moieties.....	30,209 54
Protection of sea-otter hunting grounds and seal fisheries in Alaska.....	25,000 00
Salaries and expenses of agents at seal-fisheries in Alaska	13,811 64
Unclaimed merchandise.....	319 89
Refunding moneys erroneously received and covered into the Treasury	37 31

Total 22,786,286 73

Deduct repayment:

Distribution of standard weights and measures for use of colleges... 65

Aggregate..... 22,786,286 08

Number of estimates received and examined.....	2,143
Number of requisitions issued.....	2,143
Amount involved in requisitions.....	20,583,957 69
Number of letters received.....	17,665
Number of letters written.....	8,895
Number of letters recorded.....	7,394
Number of stubs of receipts for duties and fees returned by collectors.....	247,605
Number of stubs examined and summarized.....	240,619
Number of stubs, tonnage, received and entered	8,164
Number of oaths examined and registered.....	2,132
Number of appointments registered.....	4,500
Average number of clerks employed.....	30

I inclose herewith a statement of the transactions in bonded goods as shown by the adjusted accounts, also of property brought into the United States for temporary purposes, under section 2507, R. S.

I am, very respectfully, your obedient servant,
HENRY C. JOHNSON,
Commissioner of Customs.

The SECRETARY OF THE TREASURY.

REPORT OF THE FIRST AUDITOR OF THE TREASURY.

TREASURY DEPARTMENT,
FIRST AUDITOR'S OFFICE,
Washington, October 20, 1884.

SIR: I have the honor to submit herewith the annual report of this bureau for the fiscal year ending June 30, 1884, with such recommendations as are deemed for the interest of the public service.

Attention is called to the following exhibits of the business transacted in this office during the year:

Accounts adjusted.	Number of accounts.	Amount.
RECEIPTS.		
Duties on merchandise and tonnage	1, 535	\$199, 286, 320 85
Steamboat fees	1, 351	172, 639 01
Fines, penalties, and forfeitures	927	104, 195 86
Marine-hospital money collected	1, 666	452, 416 62
Official emoluments of collectors, naval officers, and surveyors	1, 490	825, 674 95
Moneys received on account of deceased passengers	51	1, 185 00
Moneys received from sales of old material	196	47, 936 29
Miscellaneous receipts	875	1, 002, 357 07
Moneys retained from Pacific Railroad Companies for accrued interest on bonds	12	1, 508, 108 63
Treasurer of the United States for moneys received	2	655, 576, 721 94
Mints and assay offices	92	95, 135, 764 67
Water rents, Hot Springs, Arkansas	6	2, 058 20
Immigration fund	372	242, 965 50
Receipts for advertising change of name of vessels	9	157 60
Accounts of the treasurer of the District of Columbia for moneys received and deposited with the Treasurer of the United States	24	2, 018, 493 75
Total	8, 608	956, 377, 944 94
DISBURSEMENTS.		
Expenses of collecting the revenue from customs	1, 905	5, 962, 437 83
Detection and prevention of frauds on customs revenue	15	54, 997 67
Debentures, drawbacks, &c.	296	3, 399, 573 87
Excess of deposits refunded	546	3, 934, 968 38
Revenue Cutter Service	573	873, 431 76
Duties refunded, fines remitted, judgments satisfied, &c.	1, 447	1, 205, 680 41
Marine Hospital Service	113	421, 955 79
Official emoluments of collectors, naval officers, and surveyors	1, 478	639, 260 19
Awards of compensation	329	32, 273 70
Expenses in advertising change of name of vessels	9	157 60
Inspection of neat cattle shipped to foreign ports	79	68, 095 82
Light-house establishment, miscellaneous expenses	90	38, 066 63
Supplies of light-houses	96	400, 034 48
Repairs of light-houses	73	286, 840 40
Expenses of light-vessels	39	245, 908 85
Expenses of buoyage	95	321, 302 88
Expenses of fog-signals	44	39, 860 50
Expenses of lighting and buoyage of the Mississippi, Missouri, and Ohio Rivers	22	97, 632 76
Expenses of inspection of lights	9	2, 615 18
Salaries of light-house keepers	66	636, 599 50
Salaries, &c., Senate and House reporters	72	50, 000 00
Salaries and mileage of Senators	3	384, 117 09
Salaries, officers and employes Senate	4	250, 226 21
Salaries and mileage, Members and Delegates, House of Representatives	3	1, 586, 847 69
Salaries, officers and employes House of Representatives	11	316, 711 80
Salaries of employes Executive Mansion	5	34, 864 00
Salaries paid by disbursing clerks of the Departments	344	8, 833, 527 54
Salaries, officers and employes Independent Treasury	39	354, 203 78
Salaries and expenses reporter of Supreme Court	7	9, 347 58
Salaries, office of Director of Geological Survey	4	34, 923 32
Salaries and expenses, special inspectors foreign steam-vessels	140	37, 507 39
Salaries, governors, &c., Territories of the United States	7	1, 100 00
Salaries of the civil list paid directly from the Treasury	2, 054	606, 002 00
Salaries, office of the Public Printer	4	14, 974 60
Salaries, Bureau of Engraving and Printing	12	25, 833 35
Salaries, Congressional Library	4	36, 522 10

Accounts adjusted.	Number of accounts.	Amount.
DISBURSEMENTS—Continued.		
Salaries, standard weights and measures	7	\$8,388 00
Salaries, Steamboat Inspection Service	2	99,145 64
Salaries, special agents Independent Treasury	6	2,234 79
Salaries, custodians and janitors	3	146,134 83
Salaries, Agricultural Department	3	91,411 82
Salaries, Botanic Garden	4	9,098 93
Salaries and expenses, National Board of Health	17	20,872 91
Salaries of employes public buildings and grounds	16	102,758 83
Salaries and expenses, seal fisheries	28	13,884 26
Salaries, office of Civil Service Commission	5	16,654 46
Salaries and expenses, commission to regulate mail transportation	1	10,000 00
Contingent expenses, Executive Mansion	8	1,768 65
Contingent expenses, United States Senate	29	123,135 00
Contingent expenses, House of Representatives	21	54,671 16
Contingent expenses, Departments, Washington	879	367,778 96
Contingent expenses, Independent Treasury	201	61,993 00
Contingent expenses, Steamboat Inspection Service	1,053	43,108 83
Contingent expenses, public buildings and grounds	12	440 29
Contingent expenses, office of Public Printer	7	1,184 58
Contingent expenses, Library of Congress	4	933 03
Contingent expenses, executive offices, Territories	20	6,131 26
Contingent expenses, Utah Commission	1	11,617 41
Stationery, Treasury Department	266	79,464 92
Stationery, Interior Department	6	65,452 79
Stationery, War Department	2	17,684 52
Treasurer of the United States, for general expenditures	2	588,835,145 97
Gold and silver bullion account	40	88,893,623 02
Ordinary expenses, mints and assay offices	70	1,261,052 64
Parting and refining bullion	14	168,883 75
Coinage of standard silver dollars	21	153,590 61
Freight on bullion and coin	14	8,754 03
Transportation of silver coin	8	13,272 30
Storage of silver dollars	12	51,693 81
Recoinage of gold, silver, and minor coins	2	97 66
Manufacture of medals	2	20,359 58
Legislative expenses, Territories of the United States	39	106,742 17
Defending suits in claims against the United States	7	2,889 85
Geodetic and Coast Survey of the United States	47	672,983 94
Geological Survey of the Territories	50	362,150 72
Lands and other property of the United States	23	1,983 04
Protection and improvement of Hot Springs, Ark	22	99,565 64
Reproducing plats of surveys, General Land Office	6	24,219 75
Adjusting claims for indemnity for swamp lands	6	13,746 99
Protection and improvement of Yellowstone Park	5	41,264 23
Surveying public lands	4	28,532 02
Protecting public lands	7	57,891 32
Depredations on public timber	4	55,558 26
Smithsonian Institution, expenses of	2	42,180 00
Smithsonian Institution, North American ethnology	9	51,521 17
Smithsonian Institution, Polaris report	4	2,577 00
Bureau of Education, distribution documents	6	1,765 47
Bureau of Education, collecting statistics	3	1,306 18
Descriptive catalogue of Government publications	43	5,824 01
Publication of Tenth Census reports	28	346,606 44
Judicial expenses, embracing accounts of United States marshals, district attorneys, assistant district attorneys, special assistants, clerks and commissioners, rent of court-houses, support of prisoners, &c.	5,863	4,162,191 00
Prosecution of crimes	15	35,259 03
Suppressing counterfeiting and crime	19	80,362 40
Punishing violations of intercourse acts and frauds	14	5,102 19
Investigation of frauds, office of Commissioner of Pensions	3	45,479 71
Compensation and expenses, officers of election, Utah Territory	1	16,439 68
Purchase of military papers of Count Rochambeau	1	20,000 00
Purchase of Mathew Carpenter's records, &c.	1	8,000 00
Judgment southern district of New York in the case of the Spanish ferry-boat Nuestra Señora de Regla	1	148,203 00
Judgment United States vs. Brindle	1	18,838 82
Expenses Chinese act	81	1,422 05
Checks and certificates of deposit	11	5,742 97
INTEREST ACCOUNT.		
Registered stock	456	75,504,599 11
Coupons	125	10,035,980 63
District of Columbia, Washington, Georgetown, and corporation bonds	34	815,668 03
Navy pension fund	1	630,000 00
Louisville and Portland Canal Company's bonds	2	73,250 00
Pacific Railroad bonds	18	5,814,326 08
Uncollected interest, old loans	4	3,118 00

Accounts adjusted.	Number of accounts.	Amount.
DISBURSEMENTS—Continued.		
REDEMPTION ACCOUNT.		
United States bonds, called:		
Principal.....	12	\$43,556,600 00
Interest.....		240,073 81
United States bonds, purchased for sinking fund:		
Principal.....	12	46,180,150 00
Interest.....		816,143 08
United States bonds, exchanged into loan of 1882, 3 per cent.:		
Principal.....	8	2,400,700 00
Refunding certificates:		
Principal.....	12	66,900 00
Interest.....		12,172 45
Certificates of deposit.....	23	27,770,540 00
District of Columbia stock:		
Principal.....	5	366,000 00
Interest and premium.....		54,540 58
Louisville and Portland Canal Company's bonds.....	1	3,540 00
Notes, one and two years, compound interest, 7-30s and Treasury, and war bounty scrip:		
Principal.....	39	12,500 00
Interest.....		1,923 18
Legal-tender notes destroyed.....	17	116,528,987 00
Fractional currency destroyed.....	15	36,724 00
Old demand notes destroyed.....	15	725 00
Gold certificates.....	14	31,686,040 00
Silver certificates.....	16	29,385,469 00
Redemption of worn and mutilated United States notes.....	12	12,630 34
Expenses of national currency.....	89	105,684 50
Distinctive paper for United States securities.....	22	81,368 49
Purchase of bonds for sinking fund, Pacific Railroad.....	1	1,668,925 00
Outstanding drafts and checks.....	107	40,969 95
Judgments of the Court of Claims.....	12	47,995 83
Public printing and binding.....	144	2,400,891 50
Labor and expenses of engraving and printing.....	17	1,241,299 22
Post-Office Department requisitions.....	4	171,406 61
Postage, Executive Departments.....	25	179,618 35
Telegraphic connection between the Departments.....	13	1,096 01
Life-Saving Service.....	175	786,136 92
Establishing Life-Saving stations.....	27	44,052 43
Propagation of food-fishes.....	19	151,833 88
Illustrations for report on food-fishes.....	2	892 77
Steam-vessels (food-fishes).....	4	75,542 92
Protection sea-otter and seal fisheries.....	1	25,000 00
Pedestal for statue of Rear-Admiral Du Pont.....	12	5,842 09
Expenses, inspectors General Land Office.....	3	345 56
Books and serials for Government actuary.....	2	250 00
Expenses, Civil Service Commission.....	8	7,491 85
Digest of contested-election cases.....	1	1,000 00
Collecting statistics relating to commerce.....	22	6,270 12
Examination national banks and bank plates.....	13	471 05
Estimates and digest of appropriations.....	3	470 45
Construction of custom-houses and post-offices.....	246	996,421 36
Construction of court-houses and post-offices.....	488	1,640,111 23
Construction of building for State, War, and Navy Departments.....	14	328,967 67
Construction of barge offices, New York.....	14	6,894 62
Construction of light-houses.....	110	125,574 22
Construction of building for Bureau of Engraving and Printing.....	8	941 88
Construction of extension of Government Printing Office.....	4	407 86
Construction of marine hospitals.....	49	79,631 15
Construction of penitentiary building, Dakota.....	7	6,905 82
Construction of building for Agricultural Department.....	2	2,660 21
Construction of Pension Office building.....	3	100,175 56
Construction of steam-tenders.....	7	42,111 71
Construction and repair of revenue vessels.....	15	91,631 49
Construction of Senate stable and engine-house.....	5	319 91
Construction of elevator, &c., Department of Justice.....	6	27,416 01
Construction of elevator and steam-machinery, Senate.....	2	1,538 06
Construction of appraisers' stores.....	7	341 67
Construction of vaults, San Francisco.....	2	16,850 00
Construction of Fish Commission buildings.....	5	13,535 15
Reconstruction of eastern portion of Smithsonian Institution.....	2	21,689 82
Reconstruction of Interior Department building.....	7	51,270 43
Plans for public buildings.....	7	4,263 18
Completion of Washington Monument.....	12	134,089 84
Repairs, fuel, &c., Executive Mansion.....	13	23,609 12
Annual repairs of the Capitol.....	6	56,268 11

Accounts adjusted.	Number of accounts.	Amount.
DISBURSEMENTS—Continued.		
REDEMPTION ACCOUNT—Continued.		
Repairs and preservation of public buildings	24	\$218,917 76
Heating apparatus for public buildings	15	11 195 85
Rent of buildings in Washington	17	8 358 97
Fuel, lights, and water for public buildings	76	56,528 98
Furniture and repairs of same for public buildings	32	322 526 69
Vaults, safes, and locks for public buildings	9	79,627 67
Lighting, &c., Executive Mansion	13	15,458 16
Lighting the Capitol Grounds	5	21,479 12
Improvement and care of public grounds	13	81,857 90
Improving Capitol Grounds	5	58,353 09
Improving Botanic Garden and buildings	5	9,201 04
Washington Aqueduct	3	11,358 07
Increasing the water supply	3	10,060 82
Repairs of water-pipes and fire-plugs	13	2,484 83
Constructing, repairing, and maintaining bridges, District of Columbia	13	3,088 76
Increase of Library of Congress	2	4,412 26
Works of art for the Capitol	3	3,429 93
Preventing the spread of epidemic diseases	21	64,207 47
Departmental libraries	31	5,156 83
Agricultural Department:		
Experimental garden	3	5,149 86
Library	3	865 08
Museum	3	808 65
Laboratory	3	19,697 42
Furniture, cases, &c.	3	5,057 69
Collecting statistics	3	53,956 24
Purchase and distribution of valuable seeds	3	66,026 89
Improving grounds	3	6,426 64
Printing annual report 1861 and 1883	30	181,700 67
Experiments in tea culture	1	1,218 84
Report on forestry	3	7,286 30
Investigating diseases of swine and other domestic animals	7	18,660 33
Investigating history of insects injurious to agriculture	3	13,932 01
Experiments in the manufacture of sugar	1	16,404 28
Examination of wools and animal fibers	1	2,640 06
Transportation agricultural and mineral specimens to Atlanta, Ga	1	597 00
Postage	3	1,986 29
Reclamation of arid and waste lands	3	13,235 91
Yorktown monument	2	304 57
Monument to commemorate battle of Monmouth, N. J.	1	20,000 00
Monument, Washington's headquarters, Newburgh, N. Y.	1	156 71
Reform School, District of Columbia	5	41,031 29
Freedmen's Hospital and Asylum	4	32,093 75
Government Hospital for the Insane, buildings, &c.	24	96,041 15
Government Hospital for the Insane, current expenses	12	270,755 69
Columbia Institution for the Deaf and Dumb	6	42,454 50
Columbia Hospital for Women	10	21,625 88
Providence Hospital	12	15,000 00
Children's Hospital	4	5,633 19
Saint Ann's Infant Asylum	4	4,948 63
National Association for the Relief of Colored Women and Children	5	8,021 84
Women's Christian Association	4	5,003 50
Industrial Home School	5	6,879 85
Maryland Institution for the Instruction of the Blind	5	5,366 33
Howard University	6	18,830 62
Apparatus for blind	1	10,000 00
Transportation of reports and maps to foreign countries	2	217 69
Maps of the United States	2	5,241 24
Special relief acts	15	54,718 94
Miscellaneous accounts	114	14,994 21
DISTRICT OF COLUMBIA ACCOUNTS.		
Refunding taxes	49	4,873 57
Washington redemption fund	23	910 04
Redemption of tax-lien certificates	25	3,198 84
Washington special-tax fund	23	21,518 82
Redemption paving scrip and certificates	36	13,068 30
Relief of the poor	24	18,143 53
Employment of the poor	23	10,204 62
Salaries and contingent expenses	68	88,273 48
Improvement and repairs	76	956,273 06
Constructing, repairing, and maintaining bridges	20	9,062 24
Public schools	61	874,209 70
Public schools, buildings and grounds	46	216,334 19
Metropolitan police	32	374,306 16
Fire department	38	110,669 65
Courts	25	11,651 83

Accounts adjusted.	Number of accounts.	Amount.
DISBURSEMENTS—Continued.		
DISTRICT OF COLUMBIA ACCOUNTS—Continued.		
Streets.....	38	\$268,932 83
Industrial Home School.....	9	2,612 72
Building, National Association for Colored Women and Children.....	9	7,489 82
General expenses of District of Columbia, 1879.....	5	15,511 82
Health Department.....	24	46,199 54
Markets.....	11	2,741 07
Water fund.....	36	109,709 15
Judgments.....	16	28,419 87
Telegraph and telephone service.....	16	13,398 61
Transportation of paupers and prisoners.....	24	2,250 71
Washington Asylum.....	24	49,116 91
Georgetown Almshouse.....	20	1,940 40
Government Hospital for the Insane.....	23	76,550 00
Washington Asylum, buildings and grounds.....	9	834 95
Police station-houses, Washington.....	20	86,098 72
Miscellaneous expenses.....	27	9,536 38
Total.....	22,705	1,126,835,581 07

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SUMMARY STATEMENT OF WORK AS SHOWN BY THIS REPORT.

Attention is called to the following statement of the work of this bureau for the fiscal year:

Number of accounts examined and adjusted.....	33,491
Number of certificates recorded.....	20,106
Number of letters written.....	5,381
Number of requisitions answered.....	1,109
Powers of attorney approved and filed.....	2,339
Total amount involved in settlements made embracing receipts and disbursements of public moneys.....	\$2,307,939,433.93

CONDITION OF OFFICIAL WORK.

It is a pleasure to report that at no time within the last five years has the work of this office been in so satisfactory condition.

All current work has been kept well in hand, with no greater delay in the general work than is unavoidable in the settlement of large monthly and quarterly accounts, requiring much time in their examination and settlement.

The list of accounts awaiting adjustment has never been so small as at this writing, during the period mentioned, yet some accounts are necessarily held for explanation, completion of vouchers, &c., before final settlement can be properly made.

In conclusion, I take much pleasure in commending the Deputy Auditor, chiefs of division, clerks and employes of this bureau for intelligent and efficient services rendered.

I am, sir, very respectfully, your obedient servant,

R. M. REYNOLDS,

Auditor.

Hon. WALTER Q. GRESHAM,

Secretary of the Treasury.

REPORT OF THE SECOND AUDITOR OF THE TREASURY.

TREASURY DEPARTMENT,
SECOND AUDITOR'S OFFICE,
Washington, October 10, 1884.

SIR: In accordance with section 283 of the Revised Statutes, and your request of the 15th ultimo, I have the honor to submit my report for the fiscal year ending June 30, 1884, showing the application of moneys appropriated for the War Department and the Indian service, the work performed in each division of the office during the year, and the condition of the public business assigned to me at the close of the year.

BOOKKEEPERS' DIVISION.

Appropriations.	Drafts.	Repayments.
Appliances for disabled soldiers	\$1,016 00	\$817 75
Armament of fortifications	288,415 68	451 11
Arming and equipping the militia	186,653 34	86,697 88
Artificial limbs	191,542 14	9,088 59
Artillery school, Fort Monroe, Va.	3,000 00	.....
Benicia Arsenal, Benicia, Cal	104,619 80	.....
Bounty, act July 28, 1866	60,000 00	1,204 45
Bounty to volunteers and their widows and legal heirs	150,000 00	2,744 37
Bounty to volunteers and regulars on enlistment .....	.....	76 94
Bounty to the Fifteenth and Sixteenth Missouri Cavalry	26,000 00	.....
Collecting, drilling, and organizing volunteers	30 21	160 61
Collection and payment of bounty, prize money, &c., to colored soldiers, &c.	1,500 00	1,031 94
Contingencies of the Army	19,575 80	210 66
Contingencies of the Adjutant-General's Department	2,545 40	48 45
Draft and substitute fund .....	.....	24 93
Expenses of the Commanding General's office	1,750 00	161 11
Expenses of military convicts	7,218 58	.....
Expenses of recruiting	99,969 74	7,525 21
Extra pay to officers and men who served in the war with Mexico.	500 00	.....
Frankford Arsenal, Philadelphia, Pa.	1,500 00	.....
General expenses	183 57	8,720 23
Manufacture or purchase of magazine guns	30,250 00	.....
Manufacture of arms at national armories	401,000 00	.....
Medical and hospital department	193,191 71	13,157 83
Medical Museum and library	10,000 00	.....
Mileage	740 88	2,267 49
New York Arsenal	5,500 00	.....
Ordnance service	118,770 50	1,376 12
Ordnance, ordnance stores, and supplies	400,000 00	182 83
Ordnance material, proceeds of sales	75,000 00	.....
Pay, &c., of the Army	12,225,008 41	449,397 04
Pay of the Military Academy	207,000 00	11,493 93
Pay of two and three year volunteers	124,058 47	6,376 93
Pay of volunteers (Mexican war) .....	.....	1 60
Purchase of Sawyer's patent for canister shot	25,000 00	.....
Purchase of arms for volunteers and regulars .....	.....	2 65
Publication of Official Records of the War of the Rebellion	37,417 51	1 00
Powder and projectiles	42,808 00	.....
Powder depot, Dover, N. J.	40,000 00	.....
Repairs of arsenals	40,000 00	26
Rock Island Arsenal, Illinois	202,500 00	.....
Rock Island bridge, Illinois	9,250 00	.....
Relief of sundry persons	568 02	.....
Sea-coast batteries for instruction of militia .....	.....	477 20
Secret service fund (transfer account, act March 3, 1875; 18 Statutes, 418) ..	4,955 78	.....
Signal Service, pay	208,000 00	.....
Signal Service, medical department	3,440 21	.....
Springfield Arsenal, Massachusetts	15,000 00	159 73
Support of National Home for Disabled Volunteer Soldiers	1,122,088 03	.....
Support of Soldiers' Home	355,505 56	65 65
Soldiers' Home, permanent fund (22 Statutes, 565)	126,600 00	.....
Soldiers' Home, interest account (22 Statutes, 565)	3,494 75	.....
Testing machine	10,000 00	8 89
Total drafts and repayments on account of War Department appropriations	17,183,177 04	553,927 91

Bookkeepers' division—Continued.

Appropriations.	Drafts.	Repayments.
<i>Appropriations for the Indian service.</i>		
Additional beef for Indian service	\$48,431 29	\$3,000 00
Appeal in Crow Dog's case	1,000 00	.....
Buildings at agencies and repairs	24,303 64	2,657 04
Civilization fund	6,924 24	4,233 42
Contingencies of the Indian Department	48,619 00	5,188 00
Consolidating Indian agencies	5,285 00	.....
Collecting and establishing Southern Comanches on reservation south of Arkansas River .....	.....	2,904 40
Expenses of Indian commissions and of the board of Indian commissioners	4,126 76	458 00
Fulfilling treaties with various Indian tribes	888,905 35	22,262 67
Gratuity to certain Ute Indians	4,066 66	100 00
Incidental expenses of the Indian service	124,839 26	12,639 48
Interest on trust funds, &c	604,370 37	14,107 97
Maintenance and education of the Lincoln, German, and Germain girls (acts May 15, 1870, March 3, 1875, and March 1, 1879)	8,468 75	.....
Negotiating with Sioux for modification of treaties	5,000 00	.....
Pay of Indian agents, inspectors, school superintendent, interpreters, and police	195,818 24	7,816 32
Payment to Utes for individual improvements	250 00	150 00
Payment to North Carolina Cherokees	1,977 22	.....
Payment of indemnity to Poncas	2,000 00	.....
Proceeds of New York Indian lands in Kansas .....	.....	1,184 43
Proceeds of Choctaw orphan reservation	1,608 04	.....
Proceeds of Sioux reservations in Minnesota and Dakota	89,654 44	5,905 37
Relief of Louisa Boddy	5,400 00	.....
Relief of destitute Indians and of Indians at the Crow, Fort Belknap, and other agencies	72,172 11	.....
Reimbursement to Creek orphan fund .....	.....	728 80
Removal and support of certain Indians	81,649 20	6,096 68
Reservoir at headwaters of the Mississippi River, &c .....	.....	15,664 00
School buildings, support of schools, &c	621,183 47	31,403 28
Support of various Indian tribes and bands	3,496,364 62	58,722 86
Surveys and appraisement of Indian lands and reservation	8,535 00	1,898 21
Stock cattle for Indian industrial schools	25,560 44	.....
Telegraphing and purchase of Indian supplies	31,421 04	389 68
Transportation of Indian supplies	264,427 85	8,160 66
Traveling expenses of Indian inspectors and others	7,757 81	1,192 79
Vaccination of Indians	236 00	.....
Miscellaneous items	3,436 55	1,143 50
Total drafts and repayments (Indian service)	6,684,401 35	208,602 06

GENERAL BALANCE SHEET of APPROPRIATIONS.

	War.	Indian.
DEBIT.		
To amount withdrawn from the Treasury July 1, 1883, to June 30, 1884.	\$17,183,177 04	\$6,684,401 35
To amount of transfer warrants issued to adjust appropriations	94,005 77	12,080 38
To unexpended balances carried to surplus fund	693,177 40	106,954 95
To aggregate amount of balances remaining to the credit of all appropriations June 30, 1884	2,114,911 38	12,904,864 57
Total	20,085,271 59	19,708,301 25
CREDIT.		
By balances on hand July 1, 1883	2,669,727 50	13,676,535 93
By amount of repayments during the year	553,027 91	208,602 06
By amount of counter warrants issued to adjust appropriations	100,288 00	16,160 49
By amount of appropriation warrants issued during the year	16,761,328 18	6,406,996 77
Total	20,085,271 59	19,708,301 25

The following is a summary of the work performed in the bookkeepers' division incidental to keeping the accounts of the office:

Requisitions registered, journalized, and posted, 4,909; settlements recorded, journalized, and posted, 3,670; settlements made in the division chiefly to adjust appropriations and close accounts, 164; statements

of balances, &c., furnished to settling clerks, 2,368; certificates listed and indexed, 1,307; repay requisitions prepared for the War and Interior Departments, 514; appropriation warrants recorded and posted, 43; official bonds of disbursing officers entered, 61; certificates of non-indebtedness issued in cases of officers and enlisted men, 2,069; letters written, 795. The amount drawn from the Treasury on settlements made in this division was \$133,203.26, which included the following sums on Soldiers' Home account:

Withdrawn from the "permanent fund" of the Soldiers' Home and paid to the treasurer of said Home, to meet current expenses (section 8, act March 3, 1875, 22 Stat., 565)	\$126,600 00
Interest on Soldiers' Home permanent fund (same act)	3,215 75
Effects of deceased soldiers, credited to the permanent fund	1,043 35

PAYMASTERS' DIVISION.

Number of accounts on hand July 1, 1883	616
Received during the year	662
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	1,278
Number of accounts audited and reported to the Second Comptroller...	654
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Remaining on hand June 30, 1884	624

On July 1, 1883, seventy "longevity claims" remained unsettled; eighty have been received since that date, and one hundred and forty-four have been disposed of, leaving six on hand. The record of deposits by enlisted men under the act of May 15, 1872, shows that 8,665 deposits were made, amounting to \$471,204.75, and that the sum of \$382,001.87, heretofore deposited, was repaid to the men on their discharge from the service. The service records of two hundred and four officers of the Army have been revised and corrected under the acts of June 18, 1878, and February 24, 1881.

The amount involved in 654 accounts, 144 claims, and 235 miscellaneous settlements was \$15,851,126.98, as follows:

Amount disbursed by paymasters, as per audited accounts	\$15,674,937 43
Amount of longevity claims allowed under the "Tyler decision"	21,301 52
Amount certified to be due the Soldiers' Home on account of contributions (12½ cents per month), fines and forfeitures by sentence of courts-martial, &c	132,145 76
Amount transferred to the books of the Third Auditor's Office, on account of subsistence and quartermaster's stores, transportation furnished soldiers on furlough, &c	7,458 46
Charges raised against officers for overpayments, double payments, erroneous musters, &c	9,679 53
Credits on account of overpayments refunded and charges removed on satisfactory explanation	4,938 33
Miscellaneous charges and credits	665 95
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Total	15,851,126 98

Letters received, 966; letters written, 2,212; clerks employed, 13.

MISCELLANEOUS DIVISION.

Number of ordnance, medical, recruiting, and miscellaneous disbursing accounts on hand July 1, 1883	511
Received during the year	1,888
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	2,399
Number audited and reported to the Second Comptroller	2,044
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Number on hand June 30, 1884	355

The amount of disbursements allowed was \$4,035,988.63, under the following appropriations:

Ordnance, ordnance stores, &c., ordnance service, arming and equipping the militia, armament of fortifications, repairs of arsenals, and other appropriations of the Ordnance Department	\$2, 049, 180 02
Medical and hospital department, artificial limbs, Medical Museum and library, and other appropriations of the Medical Department...	160, 970 54
Contingencies of the Army, publication of Official Records of the War of the Rebellion, expenses of military convicts, expenses of the commanding-general's office, contingencies of the Adjutant-General's Department, &c	117, 316 36
Expenses of recruiting, collecting, drilling, and organizing volunteers, bounties, and arrears of pay to colored soldiers, &c	306, 292 53
Support of National Home for Disabled Volunteer Soldiers.....	1, 402, 229 18
Total	4, 035, 988 63

The record of payments to officers of the Army from 1815 has been brought up to date, and a comprehensive index to the fifty-nine large volumes of which the record consists is now being prepared. The register of payments to officers of volunteers, in forty-eight volumes, is not quite completed, but is so far advanced as to be of very great service. The time of two clerks is occupied in furnishing statements of payments to officers whose claims are being settled in other divisions. Prior to October, 1883, the office had to depend upon the Paymaster-General of the Army for statements of this kind. The number of payments to officers (regular and volunteer) recorded during the year was 96,500, of which twenty-five were double payments made several years ago.

Letters written, 10,136; letters recorded, 1,468; clerks employed, 11.

INDIAN DIVISION.

The following is a summary of the work of this division since last report:

	Money accounts.	Property accounts.	Claims.
On hand July 1, 1883	180	79	68
Received during the year	739	666	3, 108
Total	925	745	3, 176
Audited and reported to the Second Comptroller.....	728	538	3, 091
On hand June 30, 1884	197	207	85

The amount allowed by this office in the settlement of money accounts of Indian agents, special agents, inspectors, and other disbursing officers of the Indian service was \$2,579,821.83, and the amount certified to be due contractors and others for supplies furnished and services rendered was \$4,406,955.85, making the total disbursements \$6,986,777.68.

Forty-nine transcripts of disbursing officers' accounts have been prepared for suit. The balances in dispute amount to \$369,751.53 and consist almost entirely of items disallowed by the accounting officers in consequence of apparent infractions of law or regulations on the part of agents. Some of these balances have been standing on the books for several years, the limited force of the office precluding earlier action.

It is to be regretted that the force assigned to this division is not always available for its current work. The time of one of the best clerks has been occupied for several months upon an investigation of

Cherokee Indian accounts under the treaty of 1835, while two others are engaged in preparing a report of Union Pacific Railroad settlements which will require months of patient examination. These labors are at the instance of the Court of Claims and are entirely foreign to the ordinary business of the division.

The Indian Division has to state accounts under no less than three hundred and twenty-four heads of current appropriations, besides a large number brought forward from previous years. The transactions concerned in these accounts are of the greatest possible variety, and it is scarcely necessary to say that the execution of the duties devolving upon the clerical force employed demands all the best qualities of skilled accountants as well as the sound judgment, general knowledge, and faithful industry required in the performance of work of other kinds.

The number of letters written was 3,592; 924 letters were recorded, and 22 clerks employed.

PAY AND BOUNTY DIVISION.

Examining branch.

Classes of claims.	Claims pending July 1, 1883.	New claims received.	Old claims revived.	Sent to settling branch.	Disallowed.	Referred elsewhere.	Claims pending June 30, 1884.
WHITE SOLDIERS.							
Commissioned officers							
Enlisted men, subsequent to April 19, 1861—arrears of pay and all bounties	23, 815	10, 029	1, 703	3, 265	4, 574	4, 741	20, 561
Claims for pay prior to April 19, 1861	240	366	76	30	124	1	511
Claims of laundresses, sutlers, tailors, &c	44	17	3	11	2	1	50
COLORRED SOLDIERS.							
Arrears of pay and bounty	8, 263	2, 198	458	602	1, 127	13	9, 082
Total	33, 362	12, 601	2, 238	4, 004	5, 837	4, 155	30, 204

Settling branch.

Classes of claims.	Claims pending July 1, 1883.	Received from examining branch.	Claims settled and allowed.	Disallowed.	Referred elsewhere.	Claims pending June 30, 1884.
WHITE SOLDIERS.						
Commissioned officers						
Enlisted men, subsequent to April 19, 1861—arrears of pay and all bounties	598	3, 265	2, 916	68	24	855
Claims for pay prior to April 19, 1861		36	39			
Claims of laundresses, sutlers, tailors, &c		11	11			
COLORRED SOLDIERS.						
Arrears of pay and bounty	82	602	646	6		123
Total	680	4, 004	3, 600	74	24	977

The claims settled and allowed averaged not quite \$140.40 each, the total amount being \$506,698.70, which includes the following items: Payments under the "Tyler decision" to officers out of service, and to the legal representatives of deceased officers, \$21,644.22; payments of 33½ per cent. additional compensation under the act of March 2, 1867, and decision of the Second Comptroller, November 25, 1881, \$35,924.73.

Ninety-six settlements were made under section 4,818 of the Revised Statutes in favor of the Soldiers' Home for \$208,732.70 unclaimed moneys belonging to the estates of deceased soldiers of the United States Army.

Letters written, 126,216; clerks employed, 64.

DIVISION FOR THE INVESTIGATION OF FRAUD.

On July 1, 1883, 6,533 cases remained on hand, 739 new cases were received during the year, 559 cases were disposed of, leaving 6,533 on hand for future action. Abstracts of material facts were made in 328 cases of illegal or erroneous payments, and 35 cases were prepared for suit and referred to the Department of Justice. The sum of \$4,564.60 was recovered by suit and otherwise; judgments for \$1,171.42 were obtained but have not yet been satisfied, and \$3,753.80 was returned to the Treasury through the Pay Department, in cases of colored soldiers and their heirs whose claims were certified more than seven years ago but who cannot be found.

The 6,533 cases remaining on hand consist of 1,940 unsettled claims (372 white and 1,568 colored); 4,338 settled claims (973 white and 3,365 colored); and 255 cases of overpayments and double payments to officers. Apparent, alleged, or suspected fraud is involved in 4,637 of these cases, and 1,896 are settled colored claims in which the claimants could not be found within seven years after the claims were ready for payment. After the lapse of that period the legal presumption is that claimants who do not apply for their money are dead, and the amounts certified to be due them are covered into the Treasury. About one-fourth of the 1,896 seven-year cases have been called up by persons claiming payment and are now undergoing a careful investigation.

Six clerks were employed in this division during the year, and 5,284 letters were written.

PROPERTY DIVISION.

The number of property accounts (quarterly returns of clothing, camp and garrison equipage) on hand July 1, 1883, was 4,356; 3,759 were received, and 4,089 were settled during the year, leaving 4,026 on hand June 30, 1884. Charges amounting to \$1,500.92 were made against officers (including volunteers) for property not accounted for, and the sum of \$1,547.80 was collected and repaid to the appropriations from which the articles were purchased. Certificates of non-indebtedness were issued to 1,274 officers, chiefly those who served during the late war, who have claims pending either in this office for arrears of pay or in the Third Auditor's Office for the value of horses lost in service. Letters written, 2,112; letters recorded, 1,374; clerks employed, 5.

DIVISION OF INQUIRIES AND REPLIES.

Subjoined is a tabular statement of inquiries received, answered, and awaiting replies:

Officer making inquiry.	On hand July 1, 1883.	Received.	Answered.	On hand June 30, 1884
Adjutant-General	884	5, 733	6, 357	260
Quartermaster-General	44	634	674	4
Commissary-General	1	1, 647	1, 596	52
Chief of Ordnance		20	18	2
Commissioner of Pensions	320	5, 080	4, 856	544
Commissioner of the General Land Office....	3	77	78	2
Third Auditor	57	1, 878	1, 863	72
Fourth Auditor	1	9	8	2
Miscellaneous		526	526	
Total	1, 310	15, 604	15, 976	938

Miscellaneous work.

Rolls and vouchers copied for the Adjutant-General of the Army, 429; letters, affidavits, final statements, certificates of disability, and other papers, 1,824; pages of foolscap used in copying, 1,587; letters written, 3,584; signatures of claimants compared with their signatures while in the service, 5,377; descriptive lists of soldiers briefed and filed away, 22,344. Overpayments and double payments amounting to \$5,864.14 have been discovered and proper steps taken toward securing restitution. Of this amount \$2,870.11 consists of overpayments to soldiers of volunteer cavalry regiments for use and risk of horses furnished by themselves, and will be deducted by the Third Auditor from the value of horses lost in service, in accordance with section 3,482 of the Revised Statutes. Average number of clerks employed, 16.

DIVISION OF CORRESPONDENCE AND RECORDS.

Letters received, 35,040; letters written, 15,201; letters referred to other offices, 279; letters returned uncalled for, 1,114; claims received, briefed, registered, and distributed, 20,748; miscellaneous vouchers received, stamped, and distributed, 49,879; letters with additional evidence received, briefed, and registered, 17,211. Average number of clerks employed, 4.

ARCHIVES DIVISION.

Paymasters' accounts received from the Pay Department	665
Confirmed settlements received from the Second Comptroller entered, indexed, and filed: paymasters', 72; Indian, 2,751; miscellaneous, 1,177	4, 000
Miscellaneous accounts withdrawn and returned to files	3, 618
Vouchers withdrawn for reference	42, 957
Vouchers returned to files	74, 902
Vouchers briefed and examined	648, 189
File boxes briefed and stenciled	13, 372
Muster and pay rolls repaired	10, 208
Settlements (Indian and miscellaneous) rearranged and placed in file boxes.	105, 470
Mexican war vouchers re-examined and properly filed	116, 000
Letters written	324
Number of pages copied	3, 264
Clerks employed	16

Nearly all the rolls and vouchers pertaining to the war with Mexico were withdrawn from the files thirty years ago and have been kept

separate ever since. They are now being carefully overhauled and returned to their proper places where they will be as easy of access as those connected with the late war—any one of which can be found in a few minutes. Owing to age, indifferent paper, and constant use many of the abstracts of disbursements filed with paymasters' accounts, to which they are indexes, have become so fragile and torn that they can be handled with difficulty, and it has been found absolutely necessary to copy them. Over 2,500 pages were thus replaced during the year. For the purpose of facilitating the work of returning muster-rolls and vouchers to the accounts to which they belong, the file boxes containing settlements subsequent to 1860 have been numbered consecutively. Clerks withdrawing vouchers are required to indorse the number of the box on the voucher, so that its place in the files is shown at once without the necessity of referring to any abstract, register, or other record. This simple device has been found to work admirably.

RECAPITULATION.

Description of accounts, &c.	On hand July 1, 1883.	Received.	Disposed of.	On hand June 30, 1884
DISBURSING ACCOUNTS.				
Army paymasters.....	616	662	654	624
Recruiting, ordnance, medical, and miscellaneous	511	1,888	2,044	355
Indian agents.....	186	789	728	197
Total disbursing accounts	1,313	3,289	3,426	1,176
CLAIMS.				
Arrears of pay and bounty, including longevity claims	36,112	14,919	13,844	37,187
Indian	68	3,108	3,091	85
Total claims	36,180	18,027	16,935	37,272
PROPERTY ACCOUNTS.				
Clothing, camp, and garrison equipage.....	4,356	3,759	4,089	4,026
Indian	79	666	538	207
Total property accounts	4,435	4,425	4,627	4,233
Aggregate of accounts and claims	41,928	25,741	24,988	42,681

Amount drawn out of the Treasury in payment of claims and in advances to disbursing officers.....	\$23,867,578 39
Less repayments on account of unexpended balances, &c.....	762,529 97
Net amount paid out.....	23,105,048 42

Total number of letters written.....	169,456
Average number of clerks employed	168

It will be perceived that there is a slight increase in the number of accounts and claims remaining on hand, as compared with last year's returns. With an inadequate force of clerks no other result could be expected, and I see no prospect of bringing the work up to date so long as claims arising out of the late war continue to be filed at the rate of one thousand per month.

CLAIMS OF INDIAN SOLDIERS.

The 36,204 claims pending in the examining branch of the pay and bounty division include 1,224 claims of Indians who served in the war

of the rebellion. No action has been taken in these cases other than to acknowledge their receipt and to call upon the Adjutant-General of the Army for the military history of the soldiers. The applications in many cases are very imperfect, and even in those that are correct in form no confidence is felt in the statements of the claimants and their witnesses, nor has this office any means of verifying or disproving said statements. In some instances questions of identity, heirship, &c., are involved that can only be determined by special investigation. I recommend that a small appropriation be placed at the disposal of this office to defray the actual and necessary expense of investigating these and other claims of like character.

THE SOLDIERS' HOME ACCOUNTS.

The accounts of the Soldiers' Home for moneys belonging to the estates of deceased soldiers of the United States Army which have remained unclaimed for three years are nearly all settled. As soon as they shall have been fully disposed of the accounts of deserters will be taken up. In the mean time the Adjutant-General has been requested to furnish such information in regard to soldiers who have deserted from the regular Army since 1815 as will enable this office to ascertain the amount of "all forfeitures on account of desertion" which, by the act of March 3, 1851 (Section 4818 Revised Statutes), are set apart and appropriated for the support of the Home.

The total amount, from all sources, placed to the credit of the permanent fund of the Soldiers' Home under section 8 of the act of March 3, 1883, from the date of said act to September 30, 1884, is \$547,840.78. From this fund payments amounting to \$174,029.66 have been made to the Treasurer of the Home to meet current expenses, leaving \$373,311.12 to the credit of said permanent fund.

A STATUTE OF LIMITATION RECOMMENDED.

I beg leave to invite attention to the remarks under this head in my last annual report (which will be found on page 398 of the Finance Report for 1883), and to renew the recommendation therein made for the passage of an act which will bar and preclude from settlement all claims growing out of the late war not presented for payment within one or two years after the enactment of such a law. Another year's experience has strengthened my conviction that a law of this kind is absolutely necessary for the protection of the Government, and that it would not operate to the prejudice of honest claimants.

* * * * *

Very respectfully,

O. FERRISS,
Auditor.

The Hon. SECRETARY OF THE TREASURY.

REPORT OF THE THIRD AUDITOR OF THE TREASURY.

TREASURY DEPARTMENT,
THIRD AUDITOR'S OFFICE,
Washington, D. C., October 15, 1884.

SIR: I have the honor to transmit herewith report of the operations of this office for the fiscal year which ended June 30, 1884. The following statement shows, in tabular form, the number and amount of accounts and claims remaining on hand unsettled at the close of the previous fiscal year, the number received and audited, and the number remaining unsettled June 30, 1884, viz:

REPORT of BUSINESS TRANSACTED in the OFFICE during the fiscal year ended June 30, 1884.

Description of accounts.	Accounts (monthly and quarterly) remaining on hand June 30, 1883.	Accounts (monthly and quarterly) received in fiscal year ended June 30, 1884.	Accounts (monthly and quarterly) settled in fiscal year ended June 30, 1884.		Accounts (monthly and quarterly) unsettled June 30, 1884.	
			Number.	Amount involved.	Number.	Amount involved.
Quartermasters' money	1,261	2,633	4,204	\$14,427,743 96	692	\$1,706,041 31
Quartermasters' property	663	3,740	4,058	.....	565	.....
Commissaries' money	1,307	2,092	1,002	2,996,425 22	1,407	1,464,851 89
Pension agents' money	315	1,868	1,810	40,521,153 00	264	72,080,177 85
Engineers' money	50	287	273	20,611,671 00	64	2,193,234 85
Signal officers' money	188	247	216	867,068 74	210	111,305 69
Signal officers' property	279	874	901	.....	123	.....
Montana war claims	40	.....	.....	.....	43	248 00
Claims for horses lost	5,451	6,834	762	128,804 17	11,523	1,768,675 53
Claims for steamboats destroyed	75	17	9	46,213 50	83	713,493 45
Oregon war claims	699	18	15	2,900 00	702	8,614 38
Miscellaneous claims	15,328	8,745	2,453	3,165,942 97	21,020	9,389,571 31
State war claims	15	6	5	908,163 59	15	4,622,610 57
Total	25,691	28,362	18,708	92,674,094 13	37,487	94,067,464 12

THE BOOKKEEPERS' DIVISION.

The annexed statement shows the amount drawn out of certain of its appropriation accounts, and also the repayments made through this office into the Treasury, and is a full exhibit of its financial operations during the fiscal year:

STATEMENT showing the FINANCIAL OPERATIONS of the OFFICE during the fiscal year ended June 30, 1884.

	Advances to officers and agents.	Claims paid.	Transfers not involving expenditure of money from the Treasury.	Special relief acts.	Total.
The number of requisitions drawn by the Secretaries of War and Interior on the Secretary of the Treasury is 2,269 amounting to \$94,676,156.40, and paid in the manner set forth, out of the following appropriations:					
Regular supplies, Quartermaster's Department	\$2,928,295 31	\$34,579 68	\$5,458 72	.....	\$2,968,327 50
Incidental expenses, Quartermaster's Department	675,763 57	4,894 42	11,351 90	.....	692,009 98
Barracks and quarters, Quartermaster's Department	696,003 89	3,575 82	5,490 86	.....	705,130 57
Army transportation	3,420,858 83	34,939 31	4,082 59	.....	3,519,875 64
Army transportation (Pacific railroads) ..	.....	1,585,993 64	234 55	.....	1,586,227 59
Fifty per cent of arrears of Army transportation due certain land-grant railroads .....	.....	89,379 57	37 87	.....	89,417 44
Clothing, camp and garrison equipage	1,670,236 08	.....	38 77	.....	1,670,274 85
National cemeteries	92,243 27	835 50	.....	.....	93,178 77
Pay of superintendents of national cemeteries	59,914 00	80 00	.....	.....	59,994 00
Construction and repair of hospitals	99,992 48	.....	501 14	.....	100,493 63
Cavalry and artillery horses	103,620 00	.....	.....	.....	103,620 00
Observation and report of storms	230,542 50	167 50	1,271 26	.....	240,981 26
Signal Service	5,000 00	.....	.....	.....	5,000 00
Signal Service, regular supplies	57,786 75	.....	.....	.....	57,786 75
Signal Service, incidental expenses	1,475 00	.....	.....	.....	1,475 00
Signal Service, barracks and quarters ..	85,908 00	.....	.....	.....	85,908 00
Signal Service, transportation	18,275 00	67 50	.....	.....	18,342 50
Signal Service, clothing, &c	8,100 18	.....	.....	.....	8,100 18
Signal Service, subsistence	146,000 00	4,999 98	1,004 79	.....	152,004 78
Army and Navy Hospital, Hot Springs, Ark	55,000 00	1,000 00	.....	.....	56,000 00
Claims for quartermaster stores and commissary supplies, act July 4, 1884 ..	.....	2,730 08	.....	.....	2,730 08
Observation and exploration in the Arctic Seas	12,845 30	57 20	.....	.....	13,002 50
Maintenance and repair of military telegraph lines	32,000 00	.....	38 25	.....	32,038 25
Military posts	200,000 00	.....	.....	.....	200,000 00
Reimbursing State and citizens of California for expenses in suppressing Modoc Indian hostilities .....	.....	261 01	.....	.....	261 01
Military posts for the protection of the Rio Grande frontier	70,476 00	1,000 00	.....	.....	71,476 00
Road from Mound City to the national cemetery, Illinois	5,000 00	.....	.....	.....	5,000 00
Headstones for graves of soldiers in private cemeteries	25,000 00	5,856 14	.....	.....	30,856 14
Constructing jetties and other works at South Pass, Mississippi River .....	.....	150,000 00	.....	.....	150,000 00
Army depot building at Saint Paul, Minn	23,500 00	.....	.....	.....	23,500 00
Road from Chattanooga to national cemetery, Tennessee	2,500 00	.....	.....	.....	2,500 00
Purchase of Arlington estate .....	.....	25,000 00	.....	.....	25,000 00
Engineer appropriations	8,791,018 95	15,184 95	4,041 76	.....	8,810,244 76
Subsistence of the Army	1,505,776 40	17 97	1,068 54	.....	1,506,861 91
Support of military prison at Fort Leavenworth, Kansas	85,596 75	.....	.....	.....	85,596 75
Army pensions	70,770,691 24	106,460 11	.....	.....	70,877,150 35
Relief of sufferers from overflow of Ohio River and its tributaries .....	.....	.....	243 66	261,000 00	261,243 66

STATEMENT showing the FINANCIAL OPERATIONS of the OFFICE during the fiscal year ended June 30, 1884—Continued.

	Advances to officers and agents.	Claims paid.	Transfers not involving expenditure of money from the Treasury.	Special relief.	Total.
Relief of sufferers from overflow of Mississippi River and its tributaries				\$170,000 00	\$170,000 00
Relief of Sallie Spence, act April 23, 1884				100 00	100 00
Relief of T. J. Boyle, administrator of estate of Marcus Radich, deceased, act May 13, 1884				440 00	440 00
Relief of Santiago de Leon, act June 12, 1884				2,968 00	2,968 00
Relief of Mary L. Walker and Ella Walker, act May 2, 1884				1,858 50	1,858 50
Total	91,978,782 60	2,128,478 86	34,858 60	580,384 50	94,676,456 46

The number of credit and counter requisitions drawn by the Secretaries of War and Interior on sundry persons in favor of the Treasurer of the United States is 1,463, on which repayments into the Treasury have been made through the Third Auditor's Office during the fiscal year ended June 30, 1884, as follows: deposits, \$16,648,664.84; transfers, \$42,242.82; total, \$16,691,107.66.

The number of certificates of deposit received, entered, and listed during the fiscal year 1884 is 2,002.

THE QUARTERMASTER DIVISION.

The money accounts and property returns of the Quartermaster Department and of the Signal Service are examined and adjusted in this division.

The accounts of quartermasters cover a wide range of money and property responsibility.

Under the provisions of the act of March 3, 1883, and subsequent acts making appropriations for the Signal Service, the appropriations for said service cover nearly as wide a range of expenditure as that for the Quartermaster Department, although the aggregate of the disbursements is not so large. The same system of accountability for funds and property of the Signal Service obtains as in the Quartermaster Department, and the same mode of credit is applied.

	Quartermaster.		
	Number.	Amount.	Property returns.
On hand per last report	1,261	\$3,038,494 34	883
Received during the fiscal year	8,635	13,095,290 02	3,740
Total	4,896	16,133,785 26	4,623
Reported during the fiscal year	4,204	14,427,743 95	4,038
Remaining unsettled	692	1,706,041 31	585
Total	4,896	16,133,785 26	4,623

	Signal.		
	Money.	Amount.	Property returns.
On hand per last report	188	\$758, 730 80	279
Received during the fiscal year	247	219, 701 68	874
Total	435	978, 432 48	1, 153
Reported during the fiscal year	216	867, 066 74	960
Remaining unsettled	219	111, 365 69	193
Total	435	978, 432 43	1, 153

	Supplemental settlements.		Total quartermaster, Sig- nal, and supplemental settlements.	
	Money.	Amount.	Number.	Amount.
On hand per last report			2, 611	\$3, 797, 225 14
Received during the fiscal year	808	\$908, 436 58	9, 304	14, 223, 429 18
Total	808	908, 436 58	11, 915	18, 020, 654 27
Reported during the fiscal year	808	908, 436 58	10, 246	16, 203, 247 27
Remaining unsettled			1, 669	1, 817, 407 00
Total	808	908, 436 58	11, 915	18, 020, 654 27

Number of letters written, 7,238; average number of clerks employed, 20½; number of vouchers examined, 412,617; number of pages of manuscript written, 12,415.

THE SUBSISTENCE AND ENGINEER DIVISION.

The transactions of this division for the fiscal year are shown by the following statement, viz:

	Subsistence accounts.		Engineer accounts.	
	Number.	Amount.	Number.	Amount.
On hand per last report, June 30, 1883	1, 307	\$1, 400, 610 71	50	\$5, 681, 287 74
Received during the fiscal year	2, 092	8, 060, 165 90	287	14, 930, 383 35
Total	3, 399	4, 460, 776 61	337	20, 611, 671 09
Reported during the fiscal year	1, 992	2, 996, 425 23	278	18, 418, 436 24
Remaining on hand June 30, 1884	1, 407	1, 464, 351 39	64	2, 193, 234 85

Number of vouchers examined, 123,041; number of letters written, 1,401; number of differences written, 1,362; number of calls answered, 3,533; number of clerks employed, 9.

THE CLAIMS DIVISION.

MISCELLANEOUS CLAIMS.

	Number.	Amount claimed.	Amount allowed.
On hand June 30, 1883	15, 828	\$10, 442, 606 15	.....
Received during the year	8, 745	2, 112, 908 13	.....
Total	24, 073	12, 555, 514 28	.....
Disposed of during the year	2, 453	3, 165, 942 97	\$2, 650, 399 93
On hand June 30, 1884	21, 620	9, 389, 571 31	2, 650, 399 93

OREGON and WASHINGTON INDIAN WAR CLAIMS—1855-'56.

	Number.	Amount claimed.	Amount allowed.
On hand June 30, 1883	699	\$10,434 28	.....
Received during the year.....	18	1,290 00	.....
Total.....	717	11,724 28	.....
Disposed of during the year.....	15	2,909 90	\$1,926 98
On hand June 30, 1884	702	8,814 38	1,926 98

LOST VESSELS, &c., MARCH 3, 1849.

On hand June 30, 1883.....	75	\$702,763 87	.....
Received during the year.....	17	56,948 08	.....
Total.....	92	759,706 95	.....
Disposed of during the year.....	9	46,213 50	\$25,680 00
On hand June 30, 1884.....	83	713,493 45	25,680 00

Number of letters written during the year, 2,150.

THE STATE AND HORSE CLAIMS DIVISION.

STATE CLAIMS.

	Montana Nez Percé Indian war claims.		Original accounts.		Suspended accounts.	
	Number.	Amount.	Number.	Amount.	Number.	Amount.
On hand June 30, 1883	40	\$248 00	15	\$5,114,216 19	28	\$4,935,141 52
Received during the fiscal year .....	.....	.....	5	416,557 97	6	740,325 61
Total	40	248 00	20	5,530,774 16	34	5,675,467 13
Reported during the fiscal year .....	.....	.....	5	908,163 59	5	57,002 73
On hand June 30, 1884	40	248 00	15	4,622,610 57	29	5,618,464 40

HORSE CLAIMS.

	Original accounts.	
	Number.	Amount.
On hand June 30, 1883	5,451	\$966,518 00
Recorded during the fiscal year.....	6,743	916,966 60
Reconsidered during the fiscal year.....	91	11,894 50
Total	12,285	1,895,379 70
Reported allowed during the fiscal year.....	721	97,188 67
Reported disallowed during the fiscal year.....	.....	21,417 75
Reported rejected during the fiscal year.....	41	8,197 75
Total	762	126,804 17
Deducting claims disposed of, there remain on hand June 30, 1884	11,523	1,768,575 53

Number of briefs, 1,582 ; number of claims examined and suspended, 2, 66 ; number of letters recorded, 6,266 ; number of letters written, 17 400 ; number of clerks employed, 7.

THE ARMY PENSION DIVISION.

The following tabular statements show the work of this division during the fiscal year:

ACCOUNTS of PENSION AGENTS and AMOUNTS INVOLVED.

	Army pensions.		Arrears of pensions.		Total.	
	No.	Amount.	No.	Amount.	No.	Amount.
Accounts on hand July 1, 1883	246	\$63,911,736 70	80	\$27,464 09	315	\$93,339,200 79
Accounts received during the year.....	219	57,514,190 51	206	52,606 40	425	57,566,796 91
Total	465	121,425,927 21	275	80,070 49	740	121,505,997 70
Accounts reported to Second Comptroller	304	49,364,189 46	173	52,530 59	476	49,416,820 05
Accounts remaining unsettled June 30, 1884.....	261	72,061,737 75	103	27,439 90	364	72,089,177 65
Total	465	121,425,927 21	275	80,070 49	740	121,505,997 70

MISCELLANEOUS ACCOUNTS RECEIVED and AUDITED.

	No.	Amount.
Reimbursement claims, under section 4718, Revised Statutes.....	1,341	\$97,685 76
Lost, destroyed, and canceled pension checks	97	3,636 19
Fees of examining surgeons, payable from surplus fund.....	2	116 50
Advertising, New York Herald, payable from surplus fund.....	1	52 80
Money recovered by Commissioner of Pensions, due Betsey Blackman	1	963 20
Relief of Mary L. and Ella Walker, act May 3, 1864.....	1	1,858 50
	1,443	104,332 95

COMPARATIVE STATEMENT, showing NUMBER of ACCOUNTS and AMOUNTS INVOLVED, on HAND and UNSETTLED July 1, 1869, together with those RECEIVED and AUDITED each fiscal year since.

	Received.		Audited.	
	Num-ber.	Amount.	Num-ber.	Amount.
On hand July 1, 1869	637	\$34,811,593 83		
Received and audited fiscal year—				
1870.....	714	27,743,819 20	631	\$25,598,876 30
1871.....	930	26,513,262 44	811	32,813,334 28
1872.....	684	28,661,597 26	600	40,000,205 68
1873.....	711	28,756,702 92	795	33,920,556 19
1874.....	864	29,708,832 26	786	26,431,958 71
1875.....	796	29,572,855 54	619	19,898,428 52
1876.....	741	28,348,161 99	1,160	49,433,036 92
1877.....	834	27,899,959 30	952	34,007,985 43
1878.....	538	33,194,149 18	715	34,133,591 52
1879.....	256	26,123,111 84	281	25,765,870 68
1880.....	547	51,010,182 95	277	31,169,748 01
1881.....	449	50,666,241 54	555	54,973,659 39
1882.....	455	50,191,885 02	416	37,628,004 66
1883.....	1,790	55,131,872 80	1,773	41,805,163 29
1884.....	1,868	57,671,129 86	1,813	49,521,153 00
Total	12,822	598,004,808 22	12,456	525,915,630 37
Deduct amount audited.....	12,456	525,915,630 57		
Balance on hand June 30, 1884.....	866	72,089,177 65		

THE COLLECTION DIVISION.

	Entries on registers.	Special cases examined.	Accounts referred to.	Bounty-land and pension cases examined.	Letters written.	Names of soldiers of the war of 1812 abstracted.	Days comparing.	Cases prepared for suit.	Transcripts prepared for authentication.
1883.									
July	1,508	391	8,718	128	394	7,858	50	1	11
August	908	290	8,910	64	298	8,718	32	.....	9
September	543	235	8,121	67	263	8,861	50	2	9
October	525	255	5,445	132	272	8,624	37	1	5
November	774	361	7,098	150	347	9,486	43	.....	.....
December	848	806	7,195	98	308	6,389	34	.....	.....
1884.									
January	930	359	7,166	130	441	9,395	53	.....	9
February	1,231	403	7,373	107	434	8,717	48	1	11
March	1,001	301	5,628	97	338	10,164	52	2	11
April	924	276	5,941	127	335	8,323	52	2	9
May	839	255	6,378	109	353	9,558	47	2	11
June	928	391	8,363	115	421	9,672	49	2	1
Total.....	11,114	3,813	61,169	1,328	4,188	108,665	527	14	86

QUARTERMASTER ACCOUNTS.

In the foregoing statement of the Quartermaster Division, it will be seen that the amount involved in the settlements made during the year is \$16,203,247.27, being \$6,654,258.38 greater than during the year 1883. The total number of settlements in this division in 1883 was 8,875; in 1884, 10,246.

A vigorous effort has been made to close, as far as practicable, accounts where settlements have been made and balances found due the United States, as the records and files bore abundant evidence that a very large number of accounts of officers who were no longer in the military service remained open. It was determined, therefore, that the proper course to pursue, in such cases, would be to report them to the Second Comptroller, so that, if deemed to the best interest of the Government, actions could be brought to recover the amounts due the United States, and, with that end in view, 384 such cases, with balances aggregating \$1,240,692.05 due the United States, were reported to the Collection Division, in order that the necessary papers might be prepared and transmitted to the Second Comptroller for the purpose indicated above. The probability whether collections could be made of the respective balances reported was not considered for the reason that, under existing laws, the accounting officers are not vested with equity jurisdiction, and can only give credits upon satisfactory receipts for proper expenditures, and in the absence of such receipts or other evidences of the proper expenditure of the public funds for the benefit of the public service, it remained the duty of the accounting officers to make an effort to collect the balances in question.

The cases above referred to are almost wholly those of accounts of volunteer officers, rendered during the rebellion.

In cases where the interested officers are still in the service and neglect to pay balances found due from them to the United States, or make necessary corrections in their papers, ample time has been afforded them to file answers to objections noted, but, if the matter re-

main unanswered, the delinquents have been notified that unless repayments or corrections, as the case may be, are made within a given period—usually thirty days—the amount shown to be due the United States, on the last settlement of their accounts, will be reported for stoppage against their pay. During the year 1,874 of such notices were given, the amount involved being \$114,510.50. Quite a number of officers took the necessary steps to close their accounts, but 74 cases, involving \$27,773.01, were reported to the Second Comptroller, in order that the amount in question might be reported for stoppage, in pursuance of section 1766, Revised Statutes of the United States.

The good effect of pursuing the course indicated is already quite apparent, in the promptness with which a large majority of officers now make necessary corrections and repayments to close their accounts. This is further evidenced in the fact that a much larger number of accounts have been balanced during the year than for several years, even when the force employed was much larger than now. It is found that during the fiscal years mentioned below balanced settlements were made as follows, viz: in 1881, 331; in 1882, 291; in 1883, 438; and in 1884, 698.

Considerable trouble is still experienced in adjusting many accounts, by reason of the expenditure of funds pertaining to a given fiscal year in payment of liabilities incurred in another fiscal year. The difficulty originates in large part by reason of "allotments" made by the War Department. As a fiscal year draws near its close, Army officers ascertain what amount of funds remain of the respective appropriations, and of such remainder allotments are made to the respective military departments and divisions, and from thence to the respective posts and stations where it is desired to use the funds. Improvements and repairs of every kind are undertaken, the cost of which is paid out of funds pertaining to another fiscal year than that for which they are used, very often in violation of the spirit and intent of the law on the subject. When such accounts are reached for adjustment it frequently happens that the appropriations out of which the expenditures should have been made are exhausted, or have lapsed under existing law, and repayment cannot be made out of funds for the fiscal year properly chargeable with the expenditures in question.

When possible the necessary transfer is made, which adjusts the error in the immediate transaction, but the course indicated does not cure the matter entirely, for the reason that the appropriation for the year, out of which repayment is made, is reduced by that amount, and in the meanwhile a like course of expenditure has been made during *that* fiscal year, and so on from year to year, debts being incurred in excess of appropriations, thus rendering nugatory the law governing such cases.

In my annual report for the fiscal year 1883 mention was made that on settlement of sundry accounts for disbursements in the Signal Service it was found that, in violation of law, expenditures had been made of the receipts from commercial business over certain United States military telegraph lines, and that in the adjustment of such accounts the officers were debited with such receipts, but were not allowed credit for the disbursements made therefrom. The officers interested were notified of the adjustment of their accounts, and that they were held accountable for the funds expended in violation of law. Their answers thereto were, in substance, that they made the expenditures in conformity with instructions received from the Chief Signal-Officer. During the year that officer addressed a letter to the Third Auditor, in

which he claimed that the expenditures were made in conformity with law. This letter was referred to the Second Comptroller for consideration and decision, and was returned to this office with that officer's concurrence in the view held by the Third Auditor, which fact was communicated to the Chief Signal-Officer, with the suggestion that it would be well to present the matter to Congress, with the view of obtaining such legislative action as would enable the accounting officers to allow credits for the expenditures referred to. It is understood some action was taken, but it is believed Congress failed to provide a remedy for the matter, consequently the accounts referred to remain suspended.

THE PENSION-ROLL.

From the foregoing tables it will be seen that there is in this office an accumulation, steadily increasing from year to year, of unexamined accounts of pension agents, extending at present through a period of fifteen months, amounting to the sum of \$72,089,177.65; represented, in round numbers, by 1,500,000 vouchers. The number of vouchers paid by the agents during the year was 1,279,040, and the number audited during the same period was 1,154,811. The average number of clerks employed in the examination of accounts during the year was 27, and the average number of vouchers per clerk was 42,771.

In addition to the 1,500,000 vouchers unexamined at the close of the fiscal year, it is estimated that at least 1,300,000 will be paid by the agents during the present year; the bulk of which or at least 1,000,000, will be received at this office before the close of the year, and be then awaiting examination. The force now available for the examination of these 2,500,000 vouchers is 32 clerks.

In justice to the pension agents, their accounts should be audited within a reasonable time, thereby giving them timely notice of any errors or overpayments, in order to enable them promptly to correct their rolls and recover amounts overpaid, and it is of great importance to the Government that the accounts of officers disbursing such large sums should be examined and adjusted as soon as possible after payment.

Should the present rate of increase in the work of this division continue, a permanent increase in the working force of this office will be required to meet its demands.

THE FILES.

The number of money settlements added to the files during the year ended June 30, 1884, was 6,786, and the number of property returns 4,520, making a total of 11,306. The accounts are well arranged, with the exception of some very old vouchers and a portion of the pension abstracts, which have become badly worn by frequent handling. An effort has been made to have these abstracts properly bound. About 100 have been sent to the Government bindery to be bound, making as many volumes; but the progress made in doing the work is slow. There are about 900 additional volumes to be bound, and the total cost will probably be \$1,000. All money settlements received in this fiscal year have been filed in wooden boxes, of which 2,500 are now in use. They seem to answer the purpose of file-holders better than any other that have been tried. No additional room will be required for the files during the present fiscal year. Four clerks are employed on the files, and this is deemed sufficient for the present.

The number of miscellaneous papers registered in the copyist division was 5,027; difference sheets, 974; total 6,001. The number of pages of miscellaneous papers copied was 18,181; number of pages of miscellaneous papers compared, 18,676. The number of letters copied and compared was 290; number of names indexed, 2,123.

It affords me pleasure to commend the persons engaged in the public service in this office for their general faithfulness in the discharge of the important duties intrusted to their charge.

Respectfully submitted.

E. W. KEIGHTLEY,
Auditor.

Hon. WALTER Q. GRESHAM,
Secretary of the Treasury.

REPORT OF THE FOURTH AUDITOR OF THE TREASURY.

TREASURY DEPARTMENT,
FOURTH AUDITOR'S OFFICE,
Washington, November 1, 1884.

SIR: A growing evil in the expenditure of money by the Navy Department has been the increasing disregard by some of the Bureaus of the law requiring advertising and contract for purchases made. The recently-discovered fraudulent practices in the Bureau of Medicine and Surgery were greatly facilitated by the persistent determination of the late Surgeon-General to nominally make all purchases himself, while it was practically impossible for him to personally supervise transactions taking place scores or hundreds of miles from the seat of Government. This was in direct contravention of the spirit of the law and in open violation of the regulations of the Department.

I have caused a careful examination to be made of the amounts expended for supplies by the different Bureaus during the fiscal year 1883. The following table contains a summary of the result of that examination:

Payments made at Navy pay offices in United States for the several Bureaus during fiscal year 1883 for purchases.	Contracts.	Open purchase.	Exempt by law from contract or advertisement.
Bureau of Navigation.....		\$49,636 11	\$4,049 70
Bureau of Ordnance.....		19,459 59	84,965 51
Bureau of Equipment and Recruiting.....		192,933 45	152,076 15
Bureau of Yards and Docks.....	\$158,186 95	161,518 04	18,771 10
Bureau of Medicine and Surgery.....	45,660 15	49,322 26	21,912 78
Bureau of Provisions and Clothing.....	257,922 92	130,220 52	7,376 38
Bureau of Construction and Repair.....	217,573 07	139,653 19	6,685 74
Bureau of Steam Engineering.....	6,000 00	853,891 60	265,832 56
Total.....	685,352 09	1,096,835 86	511,669 92
Aggregate.....	\$2,293,857 37		

It is thus made apparent that three of the Bureaus wholly neglected the law requiring advertising, and that another, the one making the largest purchases of all, only advertised and contracted for one per cent. of goods and materials bought! About \$1,000,000 of the open

and exempt purchases were made of six individuals or firms, one dealer getting over \$300,000. Open purchases, or purchases without advertising or contract, are permitted by law when the public exigencies require the immediate delivery of articles. Special laws have been passed from time to time exempting certain articles from the law requiring advertising. See sections, Revised Statutes, 3721, 3726-29 inclusive, and also act of June 14, 1878, Statutes at Large, volume 20, page 253. Under this latter act, affecting materials for boilers, hundreds of thousands of dollars' worth have been bought, practically with no competition at all. These various acts need careful revision at the hands of Congress, and some of them unquestionably, for the good of the service, ought to be repealed.

WORK OF THE OFFICE.

The following tables exhibit a summary of the work performed in the different divisions of the office for the fiscal year ending June 30, 1884:

BOOKKEEPER'S DIVISION.

	Pay requisitions.		Repay requisitions.		Letters received.	Letters written.	Accounts journalized, entered, and balanced.	Ledger extracts for settlement.	Answers to inquiries for accounts on ledger.	Accounts received and settled.	Monthly returns of receipts and expenditures.
	No.	Amount.	No.	Amount.							
1883.											
July	228	\$1, 092, 894 77	29	\$16, 523 84	144	366	81	40	181	2	74
August	174	1, 154, 564 89	37	54, 084 04	164	278	119	32	166	1	73
September	176	1, 596, 290 21	13	116, 351 54	155	258	87	43	129	1	82
October	302	1, 984, 630 60	16	574, 635 74	185	323	31	47	134	3	52
November	215	3, 106, 698 01	40	1, 312, 598 48	166	333	80		144	0	98
December	198	1, 738, 124 78	13	491, 749 74	168	306	85		118	2	89
1884.											
January	234	1, 974, 858 42	50	641, 003 74	153	348	97	31	176	1	71
February	207	2, 554, 049 18	28	1, 657, 829 54	166	310	98	26	146	2	78
March	219	1, 980, 143 63	29	426, 633 09	166	292	71	40	171	4	79
April	267	1, 891, 748 58	33	480, 360 29	167	380	81	29	146	6	95
May	267	2, 624, 787 54	21	490, 280 02	180	353	107	24	185	4	75
June	234	2, 278, 858 50	41	874, 894 47	152	389	133	28	210	6	76
Total	2, 506	24, 897, 089 78	340	7, 047, 484 63	1, 975	3, 935	1, 080	403	1, 840	32	929

PAPERS ACCOMPANYING THE

PAYMASTERS' AND MARINE ACCOUNTS DIVISION.

Date.	Accounts received.	Accounts settled.	Letters received.	Letters written.	Cash vouchers.	Cash dis- bursements.
1883.						
July	18	81	120	126	673	\$1, 142, 409 89
August	41	81	139	187	1, 029	1, 185, 842 04
September	27	87	122	159	1, 200	939, 275 82
October	29	27	164	160	476	890, 130 43
November	43	28	147	118	893	488, 094 11
December	31	24	120	114	179	599, 866 09
1884.						
January	18	26	101	127	665	745, 052 53
February	35	22	125	114	1, 380	1, 007, 430 15
March	23	34	97	93	720	1, 523, 947 76
April	24	22	122	127	729	1, 040, 943 93
May	41	15	147	132	803	459, 172 52
June	18	26	74	99	462	431, 047 73
Total	348	323	1, 478	1, 506	9, 209	10, 454, 413 60

Accounts on hand July 1, 1883 36
Accounts on hand June 30, 1884..... 61

NAVY PAY AND ALLOTMENT DIVISION.

Date.	Accounts received.	Accounts settled.	Letters received.	Letters written.	Amount involved.
1883.					
July	52	47	251	258	\$858, 636 02
August	13	28	201	188	206, 228 83
September	89	73	185	186	1, 349, 329 89
October	21	69	258	237	601, 109 75
November	8	8	227	240	496, 783 41
December	30	7	211	195	201, 294 96
1884.					
January	26	9	217	220	424, 472 61
February	30	8	226	210	21, 129 26
March	33	19	240	172	81, 807 04
April	18	12	261	231	50, 658 59
May	116	29	263	251	276, 390 17
June	334	10	314	225	392, 858 94
Total	770	319	2, 854	2, 613	4, 960, 699 50

ALLOTMENT ACCOUNTS.

Date.	Allotments registered.	Allotments discontinued.	Date.	Allotments registered.	Allotments discontinued.
1883.			1884.		
July	97	106	January	104	72
August	76	60	February	112	70
September	62	76	March	68	61
October	148	79	April	69	80
November	96	91	May	81	126
December	20	176	June	91	83
			Total	1, 023	1, 080

AMOUNTS PAID for ALLOTMENTS at NAVY PAY OFFICES during the year 1883.

New York	\$137,559 00
Boston	93,652 00
Washington, D. C.	88,418 50
Philadelphia	82,569 00
Baltimore	36,678 00
Norfolk	31,445 00
San Francisco	23,194 00
Total	493,515 50

Number of accounts on hand June 30, 1883	174
Number of accounts on hand June 30, 1884	625
Number of vouchers examined	32,157
Number of foreign travel accounts revised preliminary to approval of Secretary of the Navy	135

NAVY PENSION ACCOUNTS DIVISION.

Date.	Accounts received.	Accounts settled.	Letters received.	Letters written.	Amount involved.
1883.					
July	2	11	93	102	\$32,477 27
August	16	4	59	82	87,272 02
September	13	20	60	83	153,705 15
October	15	16	78	91	95,843 58
November	13	17	66	80	100,855 20
December	12	9	82	87	40,956 64
1884.					
January	7	11	66	100	23,877 90
February	7	4	96	109	21,656 80
March	8	4	86	86	80,128 10
April	6	11	67	75	50,707 86
May	7	7	109	90	75,748 13
June	17	16	119	153	178,110 77
Total	123	130	981	1,188	810,834 42

Number of accounts on hand June 30, 1883	26
Number of accounts on hand June 30, 1884	19
Vouchers examined	18,568

The sum of \$2,268.43, included in the foregoing expenditure, was the entire amount paid for Navy arrears of pensions during the fiscal year ending June 30, 1884, under acts January 25 and March 4, 1879.

Of the settled accounts reported, twenty-six, amounting to \$1,231.85, were allowed under section 4718, Revised Statutes, reimbursing those who paid the expenses of deceased pensioners during their last illness and burial.

Pension agencies.	Navy invalid pensioners.	Navy widow pensioners.	Dependent relatives.	Minors.	Total.	Disbursement for year ending June 30, 1884.
Boston, Mass.	810	523	95	17	1,445	\$224,054 90
Chicago, Ill.	318	214	63	24	619	99,348 23
New York City, N. Y.	607	215	99	8	929	144,428 38
Philadelphia, Pa.	477	368	83	18	946	106,474 08
San Francisco, Cal.	81	34	2	4	121	11,194 43
Washington, D. C.	631	576	114	33	1,354	190,741 00
Total	2,924	1,930	456	104	5,414	776,241 11

PRIZE-MONEY, RECORD, AND FILES DIVISION.

Date.	Letters—		Claims—			Amount of prize-money paid.	Records.			
	Received.	Written.	Received.	Settled.	Rejected.		Letters keyed in.	Letters keyed out.	Letters recorded.	Letters indexed.
1883.										
July	129	142	18	10	8	\$5, 173 87	1, 809	1, 853	1, 847	2, 858
August	122	126	27	14	13	1, 400 16	1, 851	1, 484	1, 833	2, 873
September	121	133	23	10	12	860 41	1, 204	1, 418	2, 185	2, 639
October	135	141	19	9	10	1, 300 42	1, 430	1, 599	2, 563	2, 563
November	147	152	13	8	5	1, 046 72	1, 843	1, 425	2, 291	3, 091
December	100	120	14	9	5	1, 457 85	1, 257	1, 248	1, 933	2, 700
1884.										
January	124	158	17	8	9	349 54	1, 858	1, 479	2, 884	3, 523
February	175	191	15	7	8	69 08	1, 608	1, 696	1, 961	2, 853
March	178	171	12	9	9	1, 227 01	1, 719	1, 573	1, 983	2, 053
April	168	180	23	13	11	528 39	1, 781	1, 724	1, 792	2, 710
May	180	184	16	5	10	6, 410 82	1, 685	1, 633	1, 580	2, 004
June	180	191	13	7	6	152 20	1, 695	1, 697	877	1, 214
Total	1, 739	1, 880	215	108	100	19, 768 48	17, 907	18, 609	22, 088	30, 086

This division is charged also with the preparation of all reports and tabular statements called for by Congress and the Secretary of the Treasury; the preservation and care of the files; keeping a record of appointments, resignations, removals, and absences; the care and issuing of stationery used in the office; and the payment of salaries to employés.

GENERAL CLAIMS DIVISION.

Date.	Claims.			Amount involved.	Letters.		Number of reports on application for—		
	Received.	Settled.	Rejected.		Received.	Written.	Pensions.	Bounty land.	Admission to naval asylum.
1883.									
July	148	180	25	\$31, 775 15	588	658	286	.....	.....
August	173	82	78	15, 072 12	646	853	231	.....	2
September	154	83	30	8, 608 28	581	599	187	.....	1
October	142	109	24	13, 941 15	610	647	226	.....	1
November	169	105	70	9, 757 54	590	503	149	.....	3
December	187	100	82	12, 001 82	678	418	76	.....	.....
1884.									
January	194	183	56	10, 549 77	669	654	151	.....	.....
February	223	110	61	10, 445 76	826	784	337	.....	1
March	260	114	54	15, 010 57	952	758	207	.....	.....
April	294	111	46	28, 196 41	996	742	131	.....	2
May	213	120	38	21, 220 55	1, 006	643	105	.....	2
June	203	138	48	33, 235 70	856	640	119	.....	1
Total	2, 308	1, 350	691	209, 912 91	8, 854	7, 576	2, 184	.....	13

Claims remaining on hand June 30, 1883 1, 043
 Claims remaining on hand June 30, 1884 1, 400

NAVAL FRAUDS.

The recently discovered frauds in the Bureau of Medicine and Surgery are now undergoing investigation in a court of justice, and I forbear making any remarks on the subject further than to call attention

to the fact that a large balance in the continuous hospital fund, shown in this report to be nearly \$100,000, has furnished a temptation not existing in the case of annual appropriations made by Congress. This fund arises from the twenty cents a month deducted from the pay of each officer, seaman, and marine, and from fines imposed on them for any cause. The aggregate sum is variable, and is generally larger than is needed for any legitimate purpose. The correct method would be to cover these assessments and fines into the Treasury, and let the naval hospitals be sustained wholly by direct appropriations, as other parts of the service are. It is a question for Congress.

A STATUTE OF LIMITATIONS.

I again urge the propriety of some action by Congress tending to prevent the entertainment or opening of claims arising under ancient statutes that have received recent new constructions by the courts.

Claims are now being received, under the decision in the Graham case, that arise in travel performed forty years ago, and a considerable force of the clerks of this office has been employed for the past fiscal year in endeavoring to settle such cases. The lines of communication of a period long past have to be studied, and distances estimated as the "shortest routes" of 1840 to 1860 are not now easily determined.

The desirability of some statute giving repose to settlements cannot be doubted when it is considered that no lapse of time or acquiescence by the claimant is any bar to the readjustment of accounts. A claim founded upon an old statute may be sued upon in the Court of Claims if suit is commenced within six years from the date of the cause of action, and, if the decision is against the United States, the accounting officers are flooded with claims too old to be themselves sued upon, but which the Auditor must entertain for want of some statute of limitation upon his action. I respectfully recommend that some limit be fixed by law beyond which the accounting officers shall not recognize such claims.

* * * * *

I have the honor to be, &c.,

CHAS. BEARDSLEY,
Auditor.

Hon. HUGH McCULLOCH,
Secretary of the Treasury.

REPORT OF THE FIFTH AUDITOR OF THE TREASURY.

TREASURY DEPARTMENT,
FIFTH AUDITOR'S OFFICE,
Washington, November 8, 1884.

SIR: I have the honor to submit herewith the annual report of this office for the fiscal year ending June 30, 1884, accompanied by an appendix of tabular statements, as follows:

Table A, giving the names of diplomatic officers, including ministers, *chargés d'affaires*, secretaries, and interpreters, with salaries, contingent expenses, and passport fees.

Tables B and C, showing the salaries of consuls and their compensation from agencies; salaries for instruction, transit, and while awaiting *exequatur*; fees collected, contingent expenses, loss by exchange, and allowance for clerks at the several consulates.

Table D, showing the fees collected at unsalaried consulates and the compensation of consuls; also, rent, clerk hire, and contingent expenses.

Table E, giving the names of consular clerks, with their salaries and location.

Table F, showing the expenses for rent of prisons and wages of prison keepers at consulates in China, Japan, Siam, and Turkey; also, salaries of marshals and interpreters.

Table G, showing the number of seamen afforded relief at the various consulates, with the amount expended and the extra and arrears of wages collected.

Table H, showing the number of seamen sent to the United States, with the amount paid at the Treasury for their passage.

Table I, showing the character and amount of the fees and charges collected at each consulate, inclusive of agencies.

Tables K and L, showing the internal-revenue assessments and the amount of cash deposited by districts and States.

Table M, showing the salaries of collectors of internal revenue, with the amounts paid deputies, clerks, storekeepers, gaugers, and for incidental expenses.

DIPLOMATIC AND CONSULAR DIVISION.

In this division the expenses of the diplomatic and consular service of the United States are adjusted, including salaries and contingent expenses, relief and passage of American seamen, estates of American citizens and seamen dying abroad, awards of commissions, expenses of international exhibitions, &c.

Diplomatic service.—The accounts of ministers and other officials in this service, so far as they have been presented for settlement (Table A), show \$282,091.25 paid for salaries of ministers and *chargés d'affaires*, \$15,291.15 for salaries of *chargés d'affaires ad interim*, \$31,418.87 for salaries of secretaries, interpreters, and clerks of legations, \$85,010.04 for contingent expenses, and \$2,198.88 for loss by exchange, aggregating \$416,010.20. Included in the above are the expenses of three additional missions at Corea, Persia, and Siam, amounting to \$14,351.04. Passport fees were collected to the amount of \$3,872.10.

Consular service.—During the year accounts have been adjusted show-

ing that official fees were received and expenses paid as follows (Tables B, C, and D):

Fees for official services	\$895,780 27
Consular salaries.....	\$410,735 23
Loss by exchange	3,792 75
Compensation from fees.....	215,642 83
Rent and clerk-hire (sec. 1732, R. S.)	9,560 88
Contingent expenses	137,529 50
Allowance for clerks	55,974 80
Rent of prison, wages of keepers, &c., China	7,254 54
Rent of prison, wages of keepers, &c., Japan.....	2,899 09
Rent of prisons, wages of keepers, &c., Siam and Turkey...	1,054 00
Salaries of interpreters in China, Japan, and Siam.....	13,145 48
Salaries of marshals for consular courts	7,530 97
Expenses of interpreters, guards, &c., in Turkish dominions..	2,979 01
Boat and crew for consul at Osaka and Hiogo	227 00
Shipping and discharging seamen	4,019 00
	<hr/>
	872,345 08

Excess of receipts over all expenditures..... 23,435 19

The salaries of consular officers not citizens of the United States, aggregating \$9,010.85, and covered by a separate appropriation, are included in the above, with the amounts allowed consular officers for instructions, transit, and while awaiting exequatur.

Consular fees.—The report of this office for 1883 gave the fees for that year at \$914,839.74, but several accounts then unadjusted have increased that amount to \$926,054.95, as shown in Tables B, C, and D of the appendix. For the fiscal year just closed the fees adjusted to date aggregate \$895,780.27. Accounts not yet received and adjusted will probably increase this amount from \$10,000 to \$12,000. This falling off is not confined to any particular class of fees, being about \$5,000 on vessels' fees and \$13,500 on invoices and other fees. The following totals, taken from Table I, exhibit the sources from which the consular fees were derived:

VESSELS' FEES AND CHARGES.

Shipping and discharging crews.....	\$14,044 00
Receiving and delivering ships' papers.....	27,459 26
Bills of health, clearances and other fees.....	49,528 60
Extra wages	33,838 18
	<hr/>
Total from vessels.....	\$124,870 04

MISCELLANEOUS FEES.

Invoices.....	747,515 78
Other fees.....	57,232 63
	<hr/>
	804,748 41

Total, including extra wages..... 929,618 45

Relief of seamen.—During the year accounts for relief afforded seamen, as shown in Tables G and H, were adjusted as follows:

Extra wages collected.....	\$33,838 18
Arrears of wages collected	20,022 55
	<hr/>
	53,860 73
Extra and arrears of wages refunded.....	21,713 33
	<hr/>
Balance of extra wages and arrears.....	32,142 40
Board and lodging.....	8,681 84
Clothing.....	4,646 78
Passage to United States.....	5,626 75
Other expenses	11,767 78
	<hr/>
	30,723 15

Excess of wages not refunded over relief

1,419 25

Several accounts not yet received and adjusted will probably increase the amount of relief for the year to \$32,000 or \$33,000. Last year it amounted to \$36,473.95.

Of the 1,100 seamen relieved and reported in accounts adjusted 633, or about 57 per cent., were shipwrecked, and 102 received medical aid. Only 97 deserters received relief, and of this number 23 were reported from Fayal and 33 from Hull. Of the men reported as relieved at Bahia, Calcutta, Cape Town, Gibraltar, Kingston, and Picton, all, or nearly all, had suffered shipwreck. Returns of this character show that with few exceptions consular officers are very careful in their disbursements for relief, and that only those are cared for who are entitled to become the wards of the Government.

Other expenses of the foreign service.—During the year othe accounts pertaining to the foreign service have been adjusted, as follows :

French and American Claims Commission	\$96,886 01
Court of Commissioners of Alabama Claims	191,444 63
Commissioner to negotiate a commercial treaty with Mexico.....	8,208 33
Extending diplomatic relations with Governments of Eastern Asia, 1884 .	5,000 00
Expenses, Tribunal of Arbitration, Geneva.....	13,750 56
International Commission for the Establishment of Electrical Units.....	1,500 00
International Bimetallic Commission	3,000 00
International Remonetization of Silver	3,000 00
International Bureau of Weights and Measures, 1884	1,338 65
Transporting remains of ministers and consuls to their homes for interment, 1884	1,765 65
Steam-launch for legation and consulate at Constantinople, 1884	1,000 00
Purchase of the Franklin collection of books and papers	34,285 71
Buildings and grounds for legation in China, 1884	2,751 64
Annual expenses of Cape Spartel light, 1884	285 00
Loss by exchange, 1884	69 87
International Fishery Exhibition, 1883, at London	15,099 49
Allowance to Mrs. Caroline C. Marsh, widow of the late George P. Marsh, late minister to Italy, per deficiency act of March 3, 1883	11,019 23
Relief of claimants for destruction of private armed brig General Arm- strong, act of April 20, 1882	727 36
Allowance to J. C. Myers, late consul-general at Shanghai, act of March 3, 1879.....	2,283 81
Rescuing shipwrecked American seamen, 1884	581 50
Allowance to widows or heirs of diplomatic officers who die abroad, 1884.	3,163 71

Disbursing clerks' accounts.—The disbursing clerks of the Department of State, R. C. Morgan, deceased, and F. J. Kieckhoefer, have rendered the following accounts, which have been adjusted :

[It should be noted that the amounts given for contingent expenses of foreign missions and consulates for 1884 are included in the total disbursements for the diplomatic and consular service as presented on pages 1 and 2.]

Contingent expenses of foreign missions, 1882, \$300; 1883, \$6,484.02; 1884, \$23,000.76	\$29,784 78
Contingent expenses of consulates, 1882, \$100.72; 1883, \$14,030.04; 1884, \$24,160.18	38,290 94
Expenses under the neutrality act, 1883, \$1,297.44; 1884, \$7,632.96	8,930 40
Fishery Exhibition, 1883, at London	5,472 52
International Commission for the Establishment of Electrical Units.....	7,920 85
Rescuing shipwrecked American seamen, 1883, \$519.08; 1884, \$1,488.66 ..	2,007 74
Salary and burial expenses of, and erecting a stone to, George P. Marsh.	1,219 12
Transporting remains of ministers and consuls to their homes for inter- ment, 1884	417 34
Bringing home criminals, 1883.....	720 81
Expenses of Siamese embassy	2,225 32

Accounts for prior years.—Diplomatic and consular accounts not heretofore reported were received during the year and have been adjusted as follows:

Boat and crew for consul at Osaka and Hiogo, 1883.....	\$247 37
Salaries of interpreters to consulates, &c., 1883.....	1,510 00
Steam-launch for legation and consulate at Constantinople, 1883.....	233 64
Loss by exchange, 1883.....	73 73
Salaries United States and Spanish Claims Commission, 1879, \$3,000; 1880, \$3,000; 1881, \$3,000; 1882, \$1,783.30; 1883, \$2,575.....	13,358 30
Contingent expenses of United States and Spanish Claims Commission, 1883.....	391 40
Salaries of ministers, 1871 and prior years, \$2,129.57; 1883, \$3,938.44.....	6,068 01
Salaries of secretaries of legation, 1882, \$531.91; 1883, \$3,142.89.....	3,674 80
Contingent expenses of foreign missions, 1878, \$220.46; 1882, \$19,826.92; 1883, \$4,628.11.....	24,675 49
Rescuing shipwrecked American seamen, 1880, \$165.12; 1883, \$50.....	215 12
Bringing home criminals, 1882.....	347 33
Contingent expenses of consulates, 1871 and prior years, \$1,304.66; 1874, \$11.53; 1875, \$293.82; 1876, \$37.28; 1878, \$122.22; 1881, \$224; 1882, \$652.73; 1883, \$3,911.40.....	6,557 64
Allowance for clerks at consulates, 1875, \$79.50; 1876, \$65.93; 1880, \$300; 1882, \$127.21; 1883, \$1,327.68.....	1,900 32
Salaries consular service, 1871 and prior years, \$3,652.62; 1874, \$288.46; 1876, \$164.84; 1881, \$967.40; 1882, \$1,829.67; 1883, \$4,036.94.....	10,939 93
Relief and protection of destitute American seamen, 1880, \$16; 1882, \$30.79; 1883, \$4,896.98.....	5,743 77

Morton, Rose & Co.'s accounts.—During the year Messrs. Morton, Rose & Co., bankers of the United States at London, received \$253,367 on account of consular fees; \$15,174.31 on account of extra wages and other money of seamen. Their disbursements were as follows:

Contingent expenses consular service, 1883, \$200; 1884, \$400.....	\$600 00
Salaries consular service, 1883, \$1,744.46; 1884, \$4,016.01.....	5,760 47
Expenses interpreters, guards, &c., in Turkish dominions, 1883, \$125; 1884, \$253.86.....	378 86
Salaries of secretaries of legation, 1883, \$4,864.25; 1884, \$27,350.28.....	32,214 53
Contingent expenses of foreign missions, 1883, \$6,591.23; 1884, \$29,289.96.....	35,881 19
Salaries of ministers, 1883, \$36,455.33; 1884, \$165,782.76.....	202,238 09
International Fishery Exhibition, 1883, at London.....	10,587 83
Transporting remains of ministers and consuls to their homes for interment, 1884.....	1,424 66

Estates of decedents.—Amounts were paid from “estates of decedents trust fund,” having been previously covered into the Treasury, as follows:

Edmund Cook, deceased citizen.....	\$333 52
Thomas S. Scipio, deceased seaman.....	172 07
W. G. Featherstone, deceased citizen.....	40 88
John J. Higgins, deceased citizen.....	118 42
Gerret S. Backus, deceased citizen.....	61 00
Total.....	725 89

INTERNAL-REVENUE DIVISION.

The total collections of internal revenue, as shown by the adjustment of collectors' accounts and exhibited in detail in Tables K and L, amounted to \$121,421,981.97, not including \$163,051.85 derived from the sale of adhesive stamps, and \$24.53 from other sources.

The total expenses of collectors, including compensation of storekeepers and gaugers, aggregated \$4,068,409.29, as follows: Salaries of collectors, \$322,834.72; deputies and clerks, \$1,474,812.44; rent, fuel, and lights, \$46,555.45; stationery and other expenses, \$23,185.33; storekeepers, \$1,398,180.50, and gaugers, \$802,840.85.

PAPERS ACCOMPANYING THE
MISCELLANEOUS DIVISION.

To this division are assigned for settlement all miscellaneous internal-revenue accounts, including salaries and expenses of agents, surveyors of distilleries, fees and expenses of gaugers, stamp agents' accounts, counsel fees, drawbacks, taxes refunded, redemption of stamps, accounts for the manufacture of paper and stamps, and for the salaries of the office of the Commissioner of Internal Revenue, also accounts of the Census Office, Smithsonian Institution and National Museum, contingent expenses of the Post-Office Department, and sundry accounts of the Department of State and the Patent Office.

* * * * *

Stamp accounts.—The accounts of the Commissioner of Internal Revenue for distilled spirit and other stamps are as follows:

DISTILLED SPIRIT STAMPS.

DR.		CR.	
To stamps on hand June 30, 1883 ..	\$30,368,050 00	By stamps sent to collectors	\$82,889,905 00
To stamps received from printers..	84,850,530 00	By stamps destroyed by committee	742 50
To stamps returned by collectors..	30,240 00	By stamps on hand June 30, 1884..	32,358,933 00
To stamps received for redemption.	742 50		
	<hr/> 115,249,582 50		<hr/> 115,249,582 50

SPECIAL TAX STAMPS.

To stamps on hand June 30, 1883....	\$1,259,982 00	By stamps sent to collectors.....	\$9,015,662 00
To stamps received from printers...	10,036,352 00	By stamps destroyed by committee.	675,150 00
To stamps returned by collectors...	73,462 00	By stamps on hand June 30, 1884...	1,678,984 00
	<hr/> 11,369,796 00		<hr/> 11,369,796 00

BEER STAMPS.

To stamps on hand June 30, 1883 ...	\$4,137,856 67	By stamps sent to collectors.....	\$19,191,740 00
To stamps received from printers ..	20,196,666 66	By stamps destroyed by committee.	3,122 37
To stamps returned by collectors...	2,403 92	By stamps on hand June 30, 1884..	5,142,783 33
To stamps received for redemption.	713 45		
To stamps received for exchange...	5 00		
	<hr/> 24,337,645 70		<hr/> 24,337,645 70

STAMPS FOR TOBACCO, SNUFF, AND CIGARS.

To stamps on hand June 30, 1883 ..	\$13,456,998 76	By stamps sent to collectors.....	\$27,585,246 15
To stamps received from printers.	29,101,274 00	By stamps destroyed by committee	1,596,191 29
To stamps returned by collectors .	25,976 30	By stamps delivered for imprint...	953,868 00
To stamps received for redemption	7,724 46	By stamps on hand June 30, 1884...	9,657,163 08
	<hr/> 39,591,973 52		<hr/> 39,591,973 52

STAMPED FOIL WRAPPERS.

To wrappers received from printer..	\$197,156 60	By wrappers sent to collectors.....	\$197,156 60
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Stamps, paper, and dies.—The following accounts were adjusted, being expenses incurred for dies and paper and for the engraving and printing of internal-revenue stamps, &c.:

Bureau of Engraving and Printing.....	\$406,232 70
Fairchild Paper Company	35,433 78
John J. Crooke	5,495 90

Miscellaneous expenses.—The following sums embrace payments made by collectors of internal revenue and revenue agents for the detection of frauds upon the revenue; also disbursements made by T. J. Hobbs

for the cancellation and redemption of stamps, and for other expenses incident to the collection of the internal revenue:

Salary	\$62,606 79
Traveling expenses	15,404 84
Expenses (incidental).....	19,925 56
Stationery	15,251 88
Telegrams	1,025 20
Rent	5,000 00
Expressage	5,592 80
Counsel fees and expenses	6,262 50
Rewards.....	6,022 29
Surveyors of distilleries.....	4,358 82
Salaries in office of the Commissioner of Internal Revenue	296,579 98
Salaries in office of the Commissioner of Internal Revenue (reimbursable).....	2,500 00
Fees and expenses of gaugers prior to July 1, 1883	1,182 08
Fees and expenses of gaugers	\$02,840 85

Rebate on tobacco and other claims.—During the year rebate claims on tobacco, snuff, and cigars were received and amounts allowed under the provisions of section 4, act of March 3, 1883, as follows:

State.	Claims received.	Amount allowed.	State.	Claims received.	Amount allowed.
Alabama.....	839	\$48,039 88	Montana.....	208	\$38,832 82
Arizona	125	9,536 06	Nebraska.....	900	55,759 61
Arkansas.....	607	25,236 44	Nevada	126	6,598 43
California.....	1,330	226,782 72	New Hampshire	261	9,632 17
Colorado.....	618	55,113 58	New Jersey	321	20,257 34
Connecticut	453	31,678 77	New Mexico.....	137	11,974 85
Dakota	247	11,625 89	New York	5,292	434,195 56
Delaware	239	8,377 05	North Carolina	842	34,357 07
Florida	376	15,791 83	Ohio	3,619	244,096 06
Georgia.....	1,559	123,074 57	Oregon	493	49,956 27
Idaho.....	182	10,919 15	Pennsylvania	3,286	278,867 29
Illinois.....	3,110	278,838 59	Rhode Island	153	21,769 32
Indiana.....	1,497	84,405 95	South Carolina.....	735	38,436 07
Iowa.....	1,920	122,661 92	Tennessee.....	600	68,235 95
Kansas	1,316	55,891 27	Texas.....	2,400	186,001 36
Kentucky	573	32,385 95	Utah.....	134	13,592 94
Louisiana.....	484	52,890 58	Vermont.....	427	24,184 09
Maine	547	43,255 03	Virginia	554	42,477 52
Maryland.....	424	77,754 19	Washington	244	14,288 27
Massachusetts.....	1,009	126,426 92	West Virginia.....	277	24,466 01
Michigan	1,860	103,378 76	Wisconsin	1,498	70,063 88
Minnesota.....	1,041	93,333 63	Wyoming	67	5,323 59
Mississippi	927	31,454 19			
Missouri.....	1,462	219,826 09	Total	45,409	3,581,545 57

An adjustment of the accounts of 131 stamp agents shows a deposit of \$1,409,213.61.

Five thousand one hundred and three claims for the redemption of stamps, amounting to \$328,852.50, were settled during the year, from which \$16,838.38 were discounted, leaving \$311,914.12 actually paid.

By the last report the Secretary of the Treasury had on deposit to his credit on account of "fines, penalties, and forfeitures" (special deposit account No. 1), \$141,255.27. During the year \$307,932.35 have been deposited, and \$362,264.86 disbursed, leaving a balance to his credit January 1, 1884, of \$86,922.76. The balance to his credit January 1, 1883, on account of "offers in compromise" (special deposit account No. 5), was \$60,446.86. During the year \$144,545.17 were deposited, and \$159,064.09 disbursed, leaving a balance to his credit January 1, 1884, of \$45,927.94.

Accounts were adjusted for the following sums refunded: Taxes erroneously assessed and collected, \$43,105.68; drawback on merchandise exported, \$49,075.20, and "surplus proceeds" of lands sold for taxes in the insurrectionary States, \$16,708.88.

Moneys refunded on lands sold for taxes in the insurrectionary States amount to \$1,050.

Accounts have been adjusted with the States of California and Oregon on account of direct tax imposed by the act of August 5, 1861.

The disbursements by George Waterhouse, chairman of the South Carolina free-school fund commissioners, amounted to \$2,857.50.

Disbursing clerks' accounts.—Accounts rendered by R. O. Morgan, late disbursing clerk of the Department of State, have been adjusted as follows:

Publication of consular and other commercial reports, 1883, \$5,518.29; 1884, \$2,362.61.....	\$13,880 90
Editing, publishing, and distributing Revised and Annual Statutes, 1883, \$240.31; 1884, \$4,085.28.....	4,325 59
Books and maps, 1883, \$263.08; 1884, \$1,723.19.....	2,586 27
Removal and rearrangement of records, 1883 and 1884.....	919 04
Monument to mark the birthplace of George Washington.....	3,708 10
Monument to Thomas Jefferson at Monticello, Va.....	182 94
Stationery and furniture, 1882, \$4.16; 1883, \$1,138; 1884, \$3,253.29.....	4,395 45
Lithographing, 1881, \$47.25; 1883, 229.78; 1884, \$486.08.....	763 11
Proof-reading, 1883, \$180; 1884, \$480.....	660 00
Publication of information in aid of societies of the Red Cross.....	906 78
Transmission of certain books and mementoes to National Lincoln Monu- ment Association of Springfield, Ill.....	24 15
Observance of the centennial anniversary of the surrender of Lord Corn- wallis at Yorktown, Va.....	998 59

Accounts rendered by F. J. Kieckhoefer, disbursing clerk of the Department of State, have been adjusted as follows:

Publication of consular and other commercial reports, 1884.....	\$10,562 15
Proof-reading, 1884.....	530 00
Lithographing, 1884.....	511 02
Books and maps, 1882, \$541.48; 1884, \$183.68.....	725 16
Stationery and furniture, 1884.....	126 65
Monument to mark the birthplace of George Washington.....	4 62

Accounts rendered by J. O. P. Burnside, as disbursing clerk of the Post-Office Department, have been adjusted as follows:

Publication of Official Postal Guide, 1883, \$4,200.51; 1884, \$23,314.79....	\$27,515 30
Publication of post-route maps, 1883, \$9,338.94; 1884, \$12,662.82.....	22,001 76
Miscellaneous expenses money-order office, 1883 and 1884.....	3,868 02
Telegraphing, 1882, \$2,767.70; 1883, \$3,827.53; 1884, \$3,214.82.....	9,810 05
Stationery, 1883, \$1,696.92; 1884, \$7,478.22.....	9,175 14
Furniture, 1884.....	5,245 02
Gas, 1883, \$1,985.58; 1884, \$4,030.61.....	6,016 19
Carpets, 1884.....	3,318 61
Hardware, 1883, \$382.13; 1884, \$1,321.37.....	1,703 50
Rent, 1883, \$4,500; 1884, \$7,250.....	11,750 00
Fuel, 1883, \$5,166.01; 1884, \$6,675.90.....	11,841 91
Painting, 1884.....	4,668 04
Plumbing and gas-fixtures, 1883, \$169.50; 1884, \$690.01.....	859 51
Miscellaneous items, 1883, \$2,997.08; 1884, \$7,093.50.....	10,090 58
Keeping horses, and repair of wagons and harness, 1883, \$453.20; 1884, \$914.09.....	1,367 29
Transfer of money-order office, 1883.....	997 29

Accounts rendered by Richard Devens, disbursing clerk of the Post-Office Department, have been adjusted as follows:

Publication of the Official Postal Guide, 1884.....	\$2,621 15
Publication of post-route maps, 1884.....	4,062 02
Keeping horses, and repair of wagons and harness, 1884.....	151 81
Telegraphing, 1884.....	1,536 09
Hardware, 1884.....	118 75
Rent, 1884.....	2,000 00
Furniture, 1884.....	3 50
Painting, 1883.....	14 88
Stationery, 1883, \$30.40; 1884, \$1,521.11.....	1,551 51
Fuel, 1884.....	1,407 32
Gas, 1883, \$68.18; 1884, \$2,525.93.....	2,594 11
Miscellaneous items, 1883, \$368.58; 1884, \$1,968.16.....	2,336 74

Accounts rendered by George W. Evans, disbursing clerk of the Department of the Interior, have been adjusted as follows:

Scientific Library, Office of Commissioner of Patents, 1883, \$245.63; 1884, \$4,460.65.....	\$4,706 28
Preservation of collections, National Museum, 1883, \$1,001.72; 1884, \$92,683.40.....	94,285 12
Preservation of collections, National Museum (Armory building), 1883, \$220.21; 1884, \$2,489.75.....	2,709 96
Furniture and fixtures, National Museum, 1883, \$1,192.17; 1884, \$56,033.32.....	57,225 49
Plates for Patent Office Official Gazette, 1884.....	34,901 50
Copies of drawings, Office of Commissioner of Patents, 1883.....	5,371 44
Publishing the Biennial Register ..	2,499 80
Photolithographing, Office of Commissioner of Patents, 1884.....	71,330 96
Illustrations, Patent Office Report for 1870.....	189 25
Contingent expenses, Office of Commissioner of Patents, 1883.....	1,403 25
Expenses of the Tenth Census	163,006 54

Other accounts rendered by disbursing clerks, agents, and others, have been adjusted as follows:

Expenses Tenth Census, rendered by Richard Joseph.....	\$1,746,715 60
Expenses Tenth Census, rendered by disbursing agents, Census Office.....	9,449 78
International exchanges, Smithsonian Institution, 1884, rendered by Hon. S. F. Baird.....	7,500 00
Books and maps, Department of State, 1882, rendered by T. F. Dwight.....	483 32
Books and maps, Department of State, 1882, rendered by B. F. Stevens.....	4 42
Books and maps, Department of State, 1883, rendered by D. T. Reed....	105 60

THE WORK OF THE OFFICE.

During the year, 59,506 accounts have been adjusted, aggregating \$1,093,944,231.08 and requiring the examination of 476,896 vouchers. There have also been 11,559 reports copied, 5,278 letters written, 29,792 coupon books counted, and 29,645 coupon books scheduled. Compared with other years the work performed has been unprecedented in the history of the office. In order to secure prompt settlement of the 45,409 claims for rebate of taxes on tobacco, snuff, cigars and cigarettes, it became necessary to extend the time of labor for several weeks during the winter months to include the hours from half-past six to nine o'clock in the evening. The entire clerical force of the Bureau was thus employed, and the willingness exhibited in the performance of this additional work, and the promptness with which it was done, attest the fidelity and interest of those employed. A similar disposition to dispose of accounts additional to the regular work of the office was shown in the adjustment of 946 Alabama judgments, which required immediate settlement, and which were adjusted and forwarded to the First Comptroller within two weeks after their reception from the Department of State. It was impossible to perform so much extra work even with the working hours extended, without some delay in the regular work of the office. But this was temporary, and on the 30th of June, last, as exhibited by the work report of the office for that month, there was scarcely an unadjusted account in the Bureau which was in shape for settlement.

A very important feature of what is now a part of the regular work of the office is the comparison of consular returns with the returns made by collectors of customs, as required by section 4213 of the Revised Statutes. It is necessary to the proper adjustment of consuls' accounts, and its good effects are evidenced not only as an aid in such settlements, but by securing a better observance of the consular regulations. As shown elsewhere the great bulk of consular fees is derived from the

certification of invoices, the fee for such service being \$2.50. Last year about 300,000 invoices were thus certified, and the fact that the failure to account for the fees thus received is corrected by returns from the collectors of customs, shows the accuracy afforded by the comparison. Until these returns of consul and collector were brought together in this office, about three years ago, nothing could be learned as to the correctness of consular reports beyond what was shown on their face. Errors and omissions might have existed without fear of discovery. It is now known that discrepancies, often amounting to considerable sums, were of frequent occurrence, and that in some cases gross carelessness and dishonesty existed on the part of clerks employed by consular officers. This work, therefore, not only insures a correct accounting of fees to the Government, but it affords consular officers the means of knowing whether subordinates are properly and honestly performing their duties. To reduce this work to a system has required a patient and careful study of details, but the results are so highly satisfactory as to entirely justify the labor and the increased force given the office two years ago. It is found, however, that the space heretofore given those employed in this work is entirely inadequate, and I have the honor respectfully to recommend that an additional room be allowed and set apart for this work.

I have the honor to be, very respectfully, your obedient servant,
D. S. ALEXANDER,

Hon. HUGH McCULLOCH,

Secretary of the Treasury.

Auditor.

REPORT OF THE SIXTH AUDITOR OF THE TREASURY.

OFFICE OF THE AUDITOR OF THE TREASURY

FOR THE POST-OFFICE DEPARTMENT,

Washington, D. C., November 13, 1884.

SIR: I have the honor to submit the report of the business operations of this office for the fiscal year ended June 30, 1884.

The annual report to the Postmaster-General exhibits in detail the financial transactions of the Post-Office Department during the last fiscal year. The following is a summary* of the principal labors of this office during the last fiscal year, viz:

ACCOUNTS SUBMITTED for SUIT during the fiscal year ended June 30, 1884.

	Third quarter, 1883.		Fourth quarter, 1883.		First quarter, 1884.		Second quarter, 1884.		Total.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
Postal	1	\$174 33	4	\$17,767 28	14	\$5,098 69	5	\$4,010 54	24	\$27,050 84
Money-order			3	426 63	5	1,952 24	1	137 15	9	2,516 02
Falling bidder							1	8,000 00	1	8,000 00
Falling contractor			1	502 20			5	13,600 00	6	14,102 20
	1	174 33	8	18,696 11	19	7,050 93	12	25,747 69	40	51,669 06

* Much of the matter here referred to is omitted for want of space, but it may all be found in the pamphlet edition of the Auditor's report.

AMOUNT COLLECTED in SUIT CASES during the fiscal year ended June 30, 1884.

	Principal.	Interest and costs.	Total.
Postal.....	\$6,879 21	\$781 05	\$7,660 26
Money-order	1,711 54	88 17	1,799 71
Selling bidder.....		60 15	60 15
Selling contractor.....	1,494 40	53 22	1,547 62
Total.....	10,085 12	931 59	11,016 71

NUMBER of GENERAL POSTAL ACCOUNTS of POSTMASTERS, the INCREASE in the NUMBER, and the CLASSIFICATION of the OFFICES, for the fiscal year ended June 30, 1884.

States and Territories.	First, second, and third class offices.				Fourth class offices.	Total in each State.	Increase.	First, second, and third-class offices.		Fourth-class offices paying railway postal clerks.
	Specials.	Depositories.	Depositing.	Total.				Letter carriers.	Railway postal clerks.	
Alabama		2	21	23	1,363	1,366	67	2	4	
Alaska Territory					6	6	1			
Arizona Territory			6	5	132	137	7		1	
Arkansas.....		1	18	19	1,077	1,096	78	1	5	
California.....	1		57	58	933	991	17	4	4	1
Colorado		1	33	34	472	509	20	2	5	
Connecticut		2	54	56	409	455	6	4	6	
Dakota Territory.....		1	22	23	795	828	106		5	
Delaware			7	7	116	123	4	1	1	3
District of Columbia.....	1			1	5	6		1	1	
Florida.....		1	13	14	502	518	77	1	3	3
Georgia.....		2	28	30	1,311	1,341	48	4	11	4
Idaho Territory		1	3	4	166	170	27			
Illinois.....	1	2	191	194	1,983	2,177	67	7	30	2
Indiana.....		4	89	93	1,756	1,849	62	7	13	7
Indian Territory.....					130	136	13			
Iowa.....		5	125	130	1,457	1,617	30	8	26	7
Kansas.....		1	86	87	1,517	1,604	89	3	16	
Kentucky.....		2	38	40	1,010	1,056	61	3	7	
Louisiana.....	1		14	15	545	580	49	1	3	1
Maine.....		2	35	37	957	995	18	4	10	
Maryland.....	1		18	19	812	831	82	1	9	1
Massachusetts.....	1	2	117	120	603	783	9	14	7	
Michigan.....		5	118	123	1,490	1,613	84	7	16	1
Minnesota.....		2	52	54	1,043	1,097	47	2	13	2
Mississippi.....		1	23	24	840	864	63		6	
Missouri.....	1		61	62	1,692	1,974	60	4	16	1
Montana Territory.....		1	11	12	187	199	1		2	
Nebraska.....		1	45	46	684	980	55	2	7	
Nevada.....			10	10	134	144	5		2	
New Hampshire.....		2	31	33	468	501	11	2	5	
New Jersey.....		1	61	62	684	746	23	7	5	1
New Mexico Territory.....		1	6	7	165	172	3		1	
New York.....	2	10	216	228	2,904	3,132	56	15	39	1
North Carolina.....		1	23	24	1,784	1,808	110	1	7	
Ohio.....	1	4	134	139	2,573	2,712	91	12	26	
Oregon.....		1	12	13	435	448	37	1	1	
Pennsylvania.....	1	6	100	107	3,651	3,816	73	15	38	1
Rhode Island.....		1	10	11	114	125	3	1	1	
South Carolina.....		1	16	17	776	795	22	1	7	
Tennessee.....		3	25	28	1,723	1,813	86	4	10	7
Texas.....		2	75	77	1,530	1,607	142	5	11	1
Utah Territory.....		1	5	6	234	240	15		2	
Vermont.....		4	23	27	484	511	9	1	7	
Virginia.....		1	29	30	1,953	1,983	79	4	7	4
Washington Territory.....		1	10	11	320	321	35		2	1
West Virginia.....		1	14	15	1,101	1,116	72	1	6	
Wisconsin.....		2	83	85	1,375	1,460	30	4	19	
Wyoming Territory.....		1	3	4	94	98	4			
Total.....	11	84	2,202	2,357	47,679	50,036		159	423	54
Increase.....			213	213	1,799	2,012		4	9	16

* Decrease.

NUMBER of CHANGES of POST-OFFICES and POSTMASTERS during the fiscal year ended June 30, 1884.

Offices established and re-established	3,121
Offices discontinued	1,109
New bonds given by postmasters.....	1,895
Miscellaneous changes.....	7,507
Total	13,632
Decrease	3,862
Accounts of late postmasters adjusted during the year.....	12,781
Balances due on late postmasters' accounts when finally stated.....	\$47,090 83
Accounts of late postmasters unadjusted at close of fiscal year.....	9,678
Decrease in number of late accounts.....	1,099

BALANCES DUE the UNITED STATES for the payment of which special instructions were issued to postmasters during the fiscal year ended June 30, 1884.

Quarter ended—	Presidential.		Fourth class.		Total.	
	No. of cases.	Amount.	No. of cases.	Amount.	No. of cases.	Amount.
September 30, 1883	1,966	\$53,582 26	862	\$20,820 51	2,828	\$74,342 77
December 31, 1883.....	2,655	92,704 79	1,024	20,822 06	3,679	118,526 85
March 31, 1884	2,807	99,211 31	1,345	80,777 41	4,152	179,988 72
June 30, 1884	2,278	72,094 86	2,064	47,157 28	4,342	119,252 14
Total	9,206	317,533 22	5,295	119,577 26	14,501	437,110 48
Increase	1,777	*20,074 72	*47	*44,428 79	1,780	*64,498 51

*Decrease.

BALANCES RECEIVED by the UNITED STATES on SETTLEMENT of POSTAL ACCOUNTS with FOREIGN GOVERNMENTS.

Great Britain	\$96,019 67
United States of Colombia	1,162 58
Venezuela	234 26
Hayti	68 85
Barbadoes	79 58
Queensland	19 56
The Netherlands	5 53
New South Wales	232 86
Victoria	146 90
Norway	3 82
Russia.....	2 05
Hong-Kong.....	115 30
Total amount received	98,090 96

BALANCES PAID FOREIGN GOVERNMENTS on the SETTLEMENT of POSTAL ACCOUNTS.

Belgium	\$11,698 84
Denmark	8,506 26
Sweden.....	2,317 50
St. Thomas	183 96
Switzerland	66 19
International Bureau	669 10
Total amount paid	23,441 85

WEIGHT of FOREIGN MAILS sent during the fiscal year 1884.

Countries.	Letters.	Papers.	Countries.	Letters.	Papers.
	<i>Grams.</i>	<i>Grams.</i>		<i>Grams.</i>	<i>Grams.</i>
England.....	80, 834, 958	404, 900, 500	Pern	628, 175	10, 014, 678
Germany.....	52, 251, 184	171, 009, 632	Venezuela	402, 320	8, 849, 480
France	12, 452, 203	67, 073, 568	New Foundland.....	394, 586	3, 921, 109
Italy	8, 203, 116	24, 492, 337	Haiti	252, 480	2, 940, 378
Belgium	1, 454, 210	10, 452, 346	St. Thomas	242, 475	2, 658, 845
Denmark.....	3, 356, 303	6, 202, 052	Honduras	302, 300	2, 601, 072
Netherlands	2, 036, 128	8, 508, 046	Guatemala	328, 527	4, 765, 509
Switzerland.....	4, 180, 008	18, 372, 485	Salvador	198, 726	2, 490, 918
Spain	1, 211, 718	8, 028, 545	Ecuador	196, 298	2, 072, 980
Portugal	754, 887	2, 370, 183	Curacao	206, 460	912, 404
Sweden	12, 271, 872	30, 091, 359	Bahamas	200, 370	3, 110, 743
Norway	6, 601, 965	10, 620, 998	St. Domingo	154, 500	2, 254, 488
Austria.....	6, 415, 177	15, 743, 014	Nicaragua	197, 214	2, 897, 858
Turkey.....	414, 684	4, 817, 172	Argentine Republic.	863, 806	6, 368, 500
Russia.....	3, 389, 051	6, 055, 466	Manila	51, 886	332, 825
Cuba	3, 772, 676	30, 739, 869	Costa Rica	181, 701	2, 267, 341
Porto Rico	371, 160	3, 887, 856	St. Pierre and Mi-		
Mexico	3, 213, 481	42, 217, 881	quelon	44, 096	354, 334
Hawaiian Islands	1, 072, 714	10, 079, 961	Tahiti	65, 175	1, 046, 067
United States of Co-			Marquesas Islands..	1, 796	66, 035
lombia	1, 272, 468	13, 558, 041	Turks Island	27, 970	158, 941
Japan	1, 050, 614	12, 334, 203	Uruguay.....	111, 783	1, 600, 804
Hong Kong	987, 027	4, 458, 269	Paraguay.....	2, 805	23, 044
Brazil	856, 591	8, 909, 850	Java.....	9, 070	81, 332
Shanghai via Japan..	464, 342	6, 005, 058	Singapore.....	11, 968	137, 129
Bermuda	548, 744	4, 854, 973	New Caledonia	6, 028	68, 537
Jamaica	482, 426	5, 210, 406	Cochin-China	2, 679	12, 961
Chili	645, 604	9, 948, 168			
Windward Island....	693, 365	6, 684, 679			
			Total weight sent.	725, 841, 293	980, 791, 159

I invite your attention to the necessity for an increase of the clerical force of this office.

Seven hundred and fifty-eight new money-order offices were established July 1, 1884, which added to the work the auditing of 39,416 weekly money-order statements and the money-orders and postal notes pertaining thereto. This increase was not provided for in the estimate submitted at the last session of Congress. An addition of twenty-four clerks is needed for this purpose.

Postal notes have been found by experience to involve much more labor and time in auditing than money-orders—at least one-third more—and the number issued has greatly exceeded the expectations of the Department. Until the present year, no force has been provided for auditing them, and the portion of the present force which it is practicable to assign to the work is inadequate.

It is estimated that at the beginning of the next fiscal year four hundred additional money-order offices will be created, which will add to the present labors of the office the auditing of 20,800 weekly statements, and the money-orders and postal notes accompanying them, and upon a proper basis of distribution of labor, will require an addition of twelve clerks to the force.

It has been found for the best interests of the service to employ upon the current work the force of ten clerks authorized for ascertaining the number and amount of unpaid money-orders, with a view to the destruction or other disposition of the accumulation of weekly money-order statements. It is desirable that this force be engaged upon the work which it was designed to perform, as it is becoming constantly more embarrassing to find space for the statements, rendered weekly, from all money-order offices, since the establishment of the system. This force, unless additional help is provided, cannot be withdrawn from the current work without allowing it to fall in arrears. With all possible

effort it has been found impossible to keep the work of the money-order branch up to the requirements of the office. A large number of the clerks are engaged at their duties before and after office hours, at night, and on holidays.

Before the annual reports of this office to the Secretary of the Treasury and to the Postmaster-General can be made, it is necessary that all accounts pertaining to the fiscal year for which the reports are made be fully audited, that the aggregate results of the transactions for the year may be reached: The reports for the fiscal year ended June 30, 1884, are necessarily delayed, for the reason that the present force of the money-order division has been found insufficient to adjust the accounts of that division. Until the accounts are closed, the revenue from the money-order business, which forms part of the postal revenues for the year, cannot be ascertained. Unless the force is increased, it will be exceedingly difficult, if not impossible, to furnish the annual reports to the Secretary of the Treasury and to the Postmaster-General within the required time.

Through lack of clerical help it has been found impossible to make a report, quarterly, of the revenues of the money-order business, as is done with respect to other branches of the postal service, and as, in my opinion, is required by law. It is desirable that such reports should be made, and it is earnestly hoped that the necessary help may be provided.

It has been the custom of the office to record all official letters written, but the system has been abandoned, because of greater need, upon other current work, of the services of the clerks so engaged. The only record now preserved is that contained in the letter-press books, which, while convenient and accessible, is hardly sufficiently permanent and enduring.

While the revenues of the Department have decreased by reason of the reduction in the rate of letter postage, the labor of auditing the accounts has not been diminished, but has been considerably increased by reason of the added number of new post-offices, the increase in the number of mail routes, and the consequently augmented number of orders of the Post-Office Department, affecting the accounts of postmasters and contractors; the legislation requiring the payment of readjusted salaries, all of which affects and increases the work of the several divisions of the office.

During the fiscal year ending June 30, 1886, this office will be required to prepare the material for the portion of the Biennial Register of the United States which pertains to the postal service—more than one-half of the Register. This service will require at least twelve clerks for three months.

Much inconvenience is experienced on account of the insufficient office accommodations allotted to this Bureau, both in the Post-Office Department building and in the rented building opposite. The present force of the Money-Order Division is crowded to such an extent as to materially interfere with the proper conduct of its business, and it is a question of serious importance to find space for the rapidly increasing files of that division.

I urgently call your attention to the imperative necessity for additional office accommodations, and recommend the renting of some convenient and neighboring building for the purpose.

The system in use in this office for filing the quarterly accounts and general postal accounts of postmasters, and the various books, papers, and vouchers connected with the payments for transportation of the mails, is not sufficiently compact and convenient for their preservation,

and to afford easy access for reference. It is therefore recommended that Congress be requested to appropriate a sufficient sum for the purchase of necessary file-boxes and shelving, book-cases and file-cases to effect the needed improvement.

The magnitude of the work of this office is shown by the statement that during the last fiscal year it received 667,398 accounts, accompanied by over 12,000,000 vouchers, involving \$212,691,826.31, each of which demanded close scrutiny by capable and experienced clerks to protect the revenues of the Department.

Very respectfully,

R. F. CROWELL,
Auditor.

Hon. HUGH McCULLOCH,
Secretary of the Treasury.

REPORT OF THE TREASURER OF THE UNITED STATES.

TREASURY OF THE UNITED STATES,
Washington, D. C., November 1, 1884.

SIR: I have the honor respectfully to submit the following report, showing the operations of the Treasury of the United States for the fiscal year 1884 and its condition at the close of the year:

SUMMARY OF OPERATIONS.

The net revenue of the Government was less than that of 1883 by \$49,767,712.03, having been \$348,519,869.92, while in 1883 it amounted to \$398,287,581.95. The decrease in the receipts from customs was \$19,639,007.17; in the receipts from internal revenue, \$23,134,296.47, and in the receipts from miscellaneous sources, \$8,849,248.98. From the aggregate of these items should be deducted an increase of \$1,854,840.59 in the receipts from sales of public lands, leaving the net reduction as stated above.

The net expenditures aggregated \$244,126,244.33, a decrease from the amount in 1883 of \$21,281,893.21. The surplus applicable to the reduction of the public debt amounted to \$104,393,625.59, a decrease of \$28,485,818.82 from that of the previous year. The items of expenditure showing a decrease are as follows: On account of War Department, \$9,481,779.57; on account of Interior Department, \$11,469,936.63; on account of interest on public debt, \$4,581,752.77. There was an increase of \$2,242,411.49 in the expenditures on account of civil and miscellaneous, and of \$2,009,164.27 in the expenditures on account of Navy Department.

The disbursing officers of the United States had to their credit on the books of the Treasury at the close of the year, \$32,463,980.77.

The receipts on account of the Post-Office Department amounted to \$43,822,485.82, a decrease of \$2,223,857.07 from those of 1883; the expenditures increased \$2,969,766.38, having been \$46,281,124.87; \$24,236,893.93 of the amounts was received and expended by postmasters without being deposited in the Treasury.

There was no change in the amount of the unavailable funds of the Treasury during the fiscal year; \$29,514,665.44 being still charged as such; and the unavailable funds of the Post-Office Department remain as on June 30, 1883, \$37,277.06.

There was collected during the fiscal year from the national banks \$3,024,668.24, on account of semi-annual duty accruing on their circulation, making a total collected on account of such duty and that heretofore levied on capital and deposits, since the organization of the national banking system of \$127,206,148.11.

There were held in this office for the national banks, at the close of the fiscal year, bonds of the United States amounting to \$351,207,850, of which \$334,147,850 was held to secure the circulation issued to the banks, and \$17,060,000 as security for public moneys on deposit with such national banks as were designated depositories. There were withdrawn during the year \$69,701,250 of such bonds, and \$47,196,600 were deposited; showing a reduction in the amount held of \$22,504,650 and a decrease in the total movement of bonds of \$422,108,150; the movement in 1883 having been \$539,006,000.

There was outstanding at the close of the fiscal year \$362,378,580.64 of the various issues of United States currency; the amount redeemed and destroyed during the year was \$85,972,970.50, making a total redemption since the first issue of currency of \$2,453,305,593.81.

Silver certificates to the amount of \$52,280,000 were issued during the year; \$20,005,140 were redeemed, making the total redemptions \$52,658,309. The amount nominally outstanding at the close of the year was \$120,891,691.

The issues of gold certificates authorized by the act of July 12, 1882, amounted to \$41,470,000 and the redemptions to \$24,567,410, making the total redemptions \$32,402,040, and leaving nominally outstanding \$95,777,960. The total amount of gold certificates of the old issue redeemed to the close of the year was \$978,520,180.46, and the amount outstanding \$2,614,700.

The several offices of the Treasury paid during the year \$8,839,320.78 in coupons from United States bonds, which were forwarded to this office for examination; and \$44,518,196.76 of interest on registered bonds of the United States was paid by means of 271,494 checks on the Treasurer and assistant treasurers.

Coupons from District of Columbia 3.65 per cent. bonds, amounting to \$126,878.08, were also paid and examined; and 1,051 checks for \$394,173.75 registered interest on such bonds were issued.

Payment of the warrants of the Secretary of the Treasury required the issue of 83,279 drafts; 70,408 drafts on warrants of the Postmaster-General, and 40,312 transfer checks on assistant treasurers were issued; making a total of 466,544 drafts and checks issued by the office during the year.

There were redeemed during the year bonds of the United States amounting to \$99,838,300, of which amount \$46,769,600 was for the sinking fund; and \$1,329,250 of the bonds continued at 3½ per cent. were exchanged into three per cents. From May, 1869, the date of the first retirement, to the close of the fiscal year, the amount of bonds redeemed, purchased, converted, or exchanged was \$2,684,031,800, of which \$484,890,150 was for the sinking fund.

There were received for redemption during the year circulating notes of national banks amounting to \$126,152,572, making a total of such notes received since the act of June 20, 1874 went into operation, of \$1,404,430,725. Included in the amounts received are notes of national banks that have failed, gone into liquidation, or are reducing circulation; the amount of such notes redeemed during the year was \$26,857,689.

THE STATE OF THE TREASURY.

The following statement shows the condition of the Treasury at the close of September in each of the last four years:

	September 30, 1881.	September 30, 1882.	September 30, 1883.	September 30, 1884.
ASSETS.				
Gold Coin.....	\$77,538,048 71	\$102,312,334 49	\$148,069,376 83	\$186,889,780 16
Gold Bullion.....	97,483,477 70	50,885,629 63	60,062,067 21	52,801,398 70
Standard Silver Dollars.....	65,849,379 00	92,025,350 00	114,578,044 00	142,342,400 00
Fractional Silver Coin.....	26,343,477 17	27,429,246 56	26,792,519 89	29,476,715 63
Silver Bullion.....	2,622,676 18	3,641,529 37	5,010,801 68	4,718,993 73
Gold Certificates.....	10,100 00		28,288,890 00	28,640,920 00
Silver Certificates.....	11,309,470 00	8,243,830 00	15,080,410 00	26,165,840 00
United States Notes.....	28,422,169 89	31,918,255 77	88,135,122 48	87,085,106 01
National-Bank Notes.....	4,457,718 56	6,810,838 08	6,301,907 48	11,118,684 86
National-Bank Gold Notes.....	98,545 00	480 00		
Fractional Currency.....	22,978 08	8,459 52	5,773 44	7,179 68
Deposits held by National-Bank De- positaries.....	12,677,454 48	12,848,870 74	14,281,703 01	14,388,406 99
Minor Coin.....	552,585 08	504,515 29	528,437 33	829,019 50
New York and San Francisco Ex- change.....	1,488,000 00	1,300,000 00		
Redeemed One and Two Year Notes, &c.....	10 50	1,127 52	100 26	218 64
Redeemed Certificates of Deposit (Act of June 8, 1872).....	210,000 00	240,000 00	80,000 00	875,000 00
Quarterly Interest Checks and Con- pons paid.....	188,452 68	166,261 31	106,062 97	131,660 68
Registered and Unclaimed Interest paid.....	900 00	2,610 00		
Redeemed United States Bonds and Interest.....	2,016,876 70	6,537,331 51		
Interest on District of Columbia Bonds paid.....	1,770 25	2,002 88	817 30	5,945 70
Speaker's Certificates paid.....	115,916 00	138,841 00	140,544 87	106,080 00
Unavailable Funds.....	700,274 17	695,916 77	694,710 31	694,710 31
Total.....	331,981,210 11	346,582,990 89	456,119,817 85	519,600,240 14
LIABILITIES.				
Post-Office Department Account.....	\$3,517,708 79	\$6,157,625 54	\$7,610,127 41	\$3,516,228 81
Disbursing Officers' Balances.....	21,916,110 81	27,756,493 82	31,461,684 20	27,043,618 20
Fund for Redemption of Notes of Na- tional Banks failed, in liquidation, and reducing circulation.....	31,152,713 60	38,507,029 10	66,415,308 10	36,192,419 10
Undistributed Assets of failed Na- tional Banks.....	399,635 68	867,276 57	257,248 48	564,728 20
Five per cent Fund for Redemption of National-Bank Notes.....	15,768,662 75	15,085,182 87	14,623,814 29	12,575,074 63
Fund for Redemption of National- Bank Gold Notes.....	394,847 00	344,729 00	239,914 00	165,864 00
Fractional Silver-Coin Redemption Account.....	75,320 70	63,918 45	75,072 80	60,884 53
Currency and Minor-Coin Redemp- tion Account.....	7,176 11	4,118 05	8,001 10	27,642 71
Interest Accounts, Pacific Railroad and Louisville and Portland Canal Company.....	4,980 00	5,080 00	4,080 00	1,710 00
Treasurer United States, Agent for paying Interest on District of Co- lumbia Bonds.....	253,795 34	244,071 50	52,050 44	68,344 69
Treasurer's Transfer Checks and Drafts outstanding.....	6,475,492 11	8,337,984 52	4,379,789 76	5,682,300 02
Treasurer's General Account:				
Interest due and unpaid.....	2,151,139 98	1,537,654 01	2,027,133 00	1,763,508 01
Matured Bonds and Interest.....	3,004,205 94	793,000 50	541,061 90	289,780 40
Called Bonds and Interest.....	17,832,841 84	14,687,218 49	4,679,850 18	17,801,346 51
Old Debt.....	796,488 28	703,746 37	776,038 15	759,304 97
Gold Certificates.....	5,248,920 00	4,907,440 00	82,895,240 00	120,936,620 00
Silver Certificates.....	64,149,910 00	71,569,210 00	94,490,241 00	123,200,721 00
Certificates of Deposit (act of June 8, 1872).....	8,295,000 00	10,725,000 00	12,080,000 00	16,255,000 00
Balance, including Bullion Fund ..	151,336,116 73	143,904,893 78	163,232,468 09	149,525,062 44
Total.....	331,981,210 11	346,582,990 89	456,119,817 85	519,600,240 14

The increase and decrease in the several items of assets and liabilities during the year ended September 30, 1884, are shown in the following table. It will be observed that the gold, silver, and currency certificates, and the money held to redeem them, have been eliminated; and the items of assets reduced by the amounts of such liabilities as are properly chargeable against them.

	Assets, decrease.	Liabilities, increase.	Total.
Gold Coin and Bullion	\$20,149,115 18	.....
Silver Bullion	291,807 85	.....
United States Notes.....	4,970,016 47	.....
Speaker's Certificates	84,464 87	.....
Funds for the Redemption of National-Bank Notes.....	.....	\$654,821 34	
Undistributed Assets of Failed National Banks.....	.....	207,479 77	
Treasurer United States, Agent for paying interest on District of Columbia Bonds.....	.....	11,165 85	
Treasurer's Transfer Checks and Drafts outstanding.....	.....	1,302,510 26	
Treasurer's General Account:			
Called Bonds and Interest.....	.....	13,271,996 33	
Total.....	25,445,404 37	15,447,973 55	\$40,893,377 92
	Assets, increase.	Liabilities, decrease.	
Standard Silver Dollars.....	\$10,108,315 00	.....
Fractional Silver Coin and Redemption Account.....	2,699,284 05	.....
National-Bank Notes.....	4,811,727 13	.....
Deposits with National-Bank Depositaries	80,703 98	.....
Fractional Currency and Minor Coin.....	287,347 80	.....
Post-Office Department Account.....	.....	\$3,993,898 60	
Disbursing Officers' Balances.....	.....	4,638,266 00	
Interest Accounts, Pacific Railroads and Louisville and Portland Canal Company.....	.....	2,370 00	
Treasurer's general account:			
Interest due and unpaid.....	.....	280,421 65	
Matured Bonds and Interest.....	.....	251,881 50	
Old Debt.....	.....	16,761 56	
Total.....	17,993,377 96	9,192,509 31	27,185,977 27
Decreased Balance.....	.....	.....	13,707,400 65

The general balance was reduced from \$163,232,463.09 in 1883 to \$149,525,062.44 in 1884, a reduction of \$13,707,400.65, accounted for in part as follows:

By a decrease of \$20,149,115.18 in the amount of gold coin and bullion owned by the Treasury, or from \$151,524,594.04 in 1883 to \$131,375,478.86 in 1884.

By a decrease of \$291,807.85 in the amount of silver bullion, or from \$5,010,801.58 to \$4,718,993.73.

By a decrease of \$4,970,016.47 in United States notes, after providing for outstanding certificates.

By an increase of \$10,108,315 in the amount of standard silver dollars owned by the Treasury, or from \$35,146,213 in 1883 to \$45,254,528 in 1884.

By an increase of \$2,699,284.05 in fractional silver coin.

By an increase in the amount of national-bank notes held in the Treasury of \$4,811,727.13, or from \$6,301,907.43 in 1883 to \$11,113,634.56 in 1884.

The aggregate amount of gold and silver coin and bullion held by the Treasury increased from \$352,510,809.45 in 1883 to \$395,216,297.22 in 1884; an increase of \$42,705,487.77. The gross assets increased from \$456,119,817.85 in 1883 to \$519,690,249.14; an increase of \$63,570,431.29.

THE RESERVE.

The excess of the cash assets of the Treasury, excluding certificates and other obligations held by it, over the net current liabilities payable on demand, other than United States notes, constitutes the reserve.

The following table presents a comparison of the net assets and liabilities on November 1, 1884, with those on the same day in 1883:

	1883.	1884.
ASSETS.		
Gold Coin	\$147,037,082 56	\$106,679,508 96
Gold Bullion	62,392,647 84	55,556,761 47
Standard Silver Dollars	116,030,400 00	142,028,725 00
Fractional Silver Coin	26,712,424 15	29,346,757 24
Silver Bullion	4,036,364 88	4,646,496 89
Deposits with National-Bank Depositaries	7,987,693 27	10,063,082 96
United States Notes	37,113,037 83	53,942,171 86
National-Bank Notes	6,428,170 99	10,171,655 48
Total Assets	408,644,060 50	453,633,219 85
LIABILITIES.		
Old Debt	775,096 84	758,731 83
Called Bonds matured, and interest	3,531,342 84	11,796,288 87
Matured Bonds and interest	331,009 90	288,465 40
Interest due and unpaid	2,371,278 57	2,137,973 48
Gold Certificates outstanding	52,076,180 00	87,803,570 00
Silver Certificates outstanding	85,334,381 00	100,741,561 00
Certificates of Deposit (act of June 8, 1872) outstanding	12,545,000 00	17,771,000 00
Disbursing Officers' Balances and various small accounts	24,331,528 02	21,350,899 55
Outstanding Drafts and Checks	8,879,153 26	7,205,799 71
Five per cent. Fund for redemption of National-Bank Notes	14,220,766 81	12,650,846 21
Fund for redemption of Notes of National Banks failed, in liquidation, and reducing circulation	25,072,219 60	39,283,407 10
Post-Office Department Account	8,253,587 24	3,704,339 01
Total Liabilities	247,821,644 08	305,662,029 06
Reserve—Excess of Assets	160,822,416 42	148,070,290 19

The reserve decreased \$12,752,255.23 or from \$160,822,416.42 in 1883 to \$148,070,290.19; due to a net decrease in the cash in the Treasury not held for certificates outstanding of \$11,432,439.65, and a net increase of liabilities amounting to \$1,319,815.58, as follows:

DECREASE—CASH.		
Gold coin and bullion	\$22,692,969 47	
United States notes	8,395,865 48	
		\$31,078,834 95
INCREASE—CASH.		
Silver dollars and bullion	\$11,193,227 03	
Fractional silver coin	2,634,333 09	
National-bank notes	3,743,475 49	
Deposits in depositary banks	2,075,339 69	
		19,646,395 30
Net decrease of cash		11,432,439 65
INCREASE—LIABILITIES.		
For bonds and interest	\$7,972,720 93	
For funds for redemption of national-bank notes	2,050,326 90	
		10,023,047 83
DECREASE—LIABILITIES.		
For outstanding drafts and checks	\$1,173,355 55	
For Post-Office Department	4,549,248 23	
For disbursing officers' balances	2,980,628 47	
		8,703,232 25
Net increase of liabilities		1,319,815 58

The following table, a continuation of similar ones presented in previous reports, shows for the first day of each of the past thirteen months the amount of the current liabilities, both excluding and including United States notes; the net cash in the Treasury, and the percentage of the reserve to the United States notes outstanding and of the net cash to the current liabilities, including such notes. All certificates, together with the moneys held for their redemption, have been excluded entirely.

Month.	Current liabilities, excluding United States notes and coin and currency certificates.	Current liabilities, excluding certificates and including United States notes, viz. \$346,681,016.	Cash, less amount of coin and currency certificates.	Percentage of reserve to United States notes outstanding.	Percentage of cash to demand liabilities, including United States notes, certificates having been eliminated
1893.					
November.....	\$37,885,983 08	\$444,548,990 08	\$358,663,528 50	48.4	58.2
December.....	107,924,426 55	464,805,438 55	261,040,417 15	44.2	57.4
1894.					
January.....	111,594,982 07	458,275,908 07	253,205,010 20	40.8	55.3
February.....	103,819,965 81	450,500,981 81	258,797,196 50	48.2	55.3
March.....	112,772,007 36	459,452,023 36	267,561,011 21	41.8	56.1
April.....	107,118,221 09	453,709,237 09	257,190,830 86	42.3	56.7
May.....	103,282,908 45	452,903,319 45	258,084,474 35	43.8	57.0
June.....	109,864,409 93	450,545,425 93	250,628,906 79	42.3	56.2
July.....	113,437,353 00	460,118,369 00	252,548,777 09	40.1	54.9
August.....	108,723,345 91	455,404,361 91	246,942,161 83	39.0	54.2
September.....	111,437,385 30	458,118,401 30	251,008,272 42	40.4	54.9
October.....	108,437,555 85	455,118,571 85	251,671,507 12	41.3	55.3
November.....	99,185,798 66	445,860,814 66	247,256,088 85	42.7	55.5
Average for seventy one months.....	99,804,172 44	447,471,108 28	236,896,201 60	39.5	52.9

If it be assumed that the cash in the Treasury in excess of demand liabilities as here stated, should be maintained at about 40 per cent. of the amount of United States notes outstanding (\$346,681,016), it will be seen that during the period the reserve fell below that rate in August only, having been as high as 46.4 per cent. a year ago, and being at present 42.7 per cent. The average for the five years and eleven months since resumption has been 39.5 per cent.

If, however, the percentage be computed between the cash in the Treasury and the liabilities, including United States notes, after excluding all certificates and moneys held for their redemption, the proportion ranged from 58.2 per cent. to 54.2 per cent., and the average since resumption has been 52.9 per cent.

UNITED STATES NOTES.

The changes which have taken place in the denominations of United States notes outstanding at the close of each of the last four fiscal years are shown by the following table:

Denomination.	1881.	1882.	1883.	1884.
One dollar	\$22,645,761 00	\$22,720,058 00	\$27,736,456 80	\$26,600,184 80
Two dollars	22,344,122 40	24,622,623 40	25,524,394 20	24,807,880 20
Five dollars	69,569,078 00	87,842,540 00	71,150,085 00	75,552,915 00
Ten dollars	76,000,387 00	72,784,700 00	72,732,886 00	60,527,016 40
Twenty dollars	72,271,527 00	68,657,471 00	62,346,809 00	58,054,020 00
Fifty dollars ..	23,732,910 00	24,101,770 00	23,985,495 00	23,208,895 00
One hundred dollars	32,947,600 00	34,469,890 00	34,302,300 00	33,840,990 00
Five hundred dollars	14,870,000 00	14,876,000 00	15,008,600 00	16,914,000 00
One thousand dollars	12,024,500 00	12,335,500 00	14,828,500 00	19,034,500 00
Five thousand dollars	455,000 00	420,000 00	815,000 00	130,000 00
Ten thousand dollars	280,000 00	2,280,000 00	100,000 00	60,000 00
Total	347,681,016 00	347,681,016 00	347,681,016 00	347,681,016 00
Less unknown denominations destroyed in sub-treasury in Chicago fire	1,000,000 00	1,000,000 00	1,000,000 00	1,000,000 00
Outstanding	346,681,016 00	346,681,016 00	346,681,016 00	346,681,016 00

The appropriation for printing notes for the fiscal year 1884 having been found insufficient for the printing of the notes required, the Secretary of the Treasury, in February last, directed that the printing of one- and two-dollar notes be suspended. The issue of such notes by this office ceased in consequence about the 29th of February. On June 23 the Bureau of Engraving and Printing resumed the delivery of ones and twos, and the issue was resumed by this office on June 26. The supply of these notes has not, up to this time, been sufficient to meet the demand; none can, therefore, be held in reserve, as they should be, to undergo the seasoning which experience proves to be economical, extending, as it does, the life of the notes by increasing the capacity to sustain usage.

Owing to this suspension in the issue, the amount of one- and two-dollar notes outstanding was reduced.

The decrease in the notes outstanding was as follows: \$1,076,272 in one dollar notes, \$626,508 in two-dollar notes, \$3,205,870 in ten-dollar notes, \$4,292,280 in twenty-dollar notes, \$777,000 in fifty-dollar notes, \$661,400 in one-hundred dollar notes, \$185,000 in five-thousand-dollar notes, and \$100,000 in ten-thousand-dollar notes; an aggregate of \$10,924,330 made up by an increase in five-dollar notes of \$4,402,830, in five-hundred-dollar notes of \$1,815,500, and in one-thousand-dollar notes of \$4,706,000.

The number of notes outstanding at the end of the year was 64,928,629, a decrease of 1,058,025 notes in the year.

The following table shows the issues and redemptions during the last three fiscal years by denominations:

Denomination.	1882.		1883.		1884.	
	Issues.	Redemptions.	Issues.	Redemptions.	Issues.	Redemptions.
One dollar	\$11,445,524	\$8,870,782	\$11,986,114	\$9,970,810 80	\$8,943,236	\$10,019,508
Two dollars	10,472,000	8,092,497	9,472,000	8,770,231 20	7,808,000	8,434 500
Five dollars	14,280,000	16,506,538	22,800,000	19,052,455 00	23,420,000	19,017,170
Ten dollars	6,680,000	10,885,021	14,240,000	14,291,890 00	12,180,000	15,305,870
Twenty dollars	5,080,000	9,294,126	6,000,000	12,210,562 00	9,280,000	13,572,290
Fifty dollars	3,200,000	2,711,140	3,900,000	4,205,875 00	4,200,000	4,977,000
One hundred dollars	4,627,000	3,008,170	4,350,000	4,523,500 00	5,237,000	5,808,400
Five hundred dollars	1,750,000	1,444,000	2,350,000	2,127,500 00	4,900,000	3,084,500
One thousand dollars	1,500,000	1,180,000	4,400,000	2,407,000 00	10,000,000	5,294,000
Five thousand dollars	4,995,000	5,030,000	10,000,000	10,105,000 00	-----	185,000
Ten thousand dollars	14,990,000	12,990,000	20,000,000	22,100,000 00	-----	100,000
Total	79,520,424	79,520,424	100,764,714	100,764,714 00	85,948,236	85,948,236

As stated in the report for 1883, the issues and redemptions for that, as well as the preceding year, were augmented by passing through the accounts from the reserve fund of unissued currency, for destruction, notes of the denominations of \$5,000 and \$10,000. The actual redemptions were \$61,635,424 in 1882, and \$77,764,714 in 1883; and the redemptions for 1884 having been as above stated, \$85,948,236, exceeded those of 1883 in amount \$8,183,522, and those of 1882 \$24,312,812.

The number of notes redeemed was only 86,267 in excess of the number redeemed in 1883, having been 20,425,431.

During a portion of the year and since its close the amount of United States notes received monthly in payment of duties on imports was greater than for several years past, as the following table shows:

Month.	1878.	1880.	1881.	1882.	1883.	1884.
January	\$6,664,880	\$4,128,450	\$1,089,738	\$1,770,336	\$2,121,503	\$2,025,177
February	9,340,452	4,477,161	2,049,050	1,886,585	2,000,776	2,203,844
March	11,919,876	3,702,727	1,830,813	1,031,273	2,770,601	2,945,456
April	10,562,000	3,231,697	1,300,292	3,031,502	2,061,875	3,408,795
May	9,703,560	2,888,138	1,402,118	2,088,330	1,677,130	3,292,021
June	9,316,778	3,051,588	1,470,503	2,045,150	2,071,046	8,745,929
July	10,528,145	4,020,892	1,611,006	2,619,515	2,278,662	4,276,143
August	11,261,307	2,844,058	1,673,788	2,772,490	2,470,080	4,635,781
September	12,509,418	2,241,405	1,476,118	2,590,204	2,032,138	6,125,467
October	9,281,243	1,802,286	1,353,253	2,448,814	2,643,946	-----
November	4,012,198	1,567,784	1,341,614	2,300,843	1,576,114	-----
December	3,051,219	1,465,964	1,145,065	1,903,014	1,505,498	-----

The amount received to September 30, 1884, since the resumption of specie payments, was \$248,140,578—a monthly average of \$3,596,371. The receipts for the fiscal year were \$29,530,663, while in 1883 the amount was \$27,937,216, and the preceding year \$20,595,119. The monthly average for the year was \$2,460,889.

During the fiscal year there were redeemed in coin at the office of the assistant treasurer at New York, under the act of January 14, 1875, United States notes amounting to \$590,000; there having been no redemption prior to this since December, 1881. The total amount of notes so redeemed since the resumption of specie payments under the act was on June 30, 1884, \$12,659,086. There have been no redemptions since the close of the year.

SILVER CERTIFICATES.

There were nominally outstanding at the close of the fiscal year silver certificates amounting to \$120,891,691, an increase of \$32,274,860 during the year; the amount held by the Treasury increased from \$15,996,145 to \$23,384,680, thus leaving actually outstanding \$97,507,011, an actual increase of \$24,886,325 during the year.

The amount nominally outstanding increased to \$123,260,721 on September 30, 1884, and the amount held by the Treasury to \$26,165,840.

There were issued under the departmental circular of September 18, 1880, on deposits of gold coin with the assistant treasurer at New York, silver certificates to the amount of \$20,556,000 during the fiscal year; of these there were issued at the Cincinnati office \$1,240,000; at the New Orleans office, \$16,191,000; at the Saint Louis office, \$3,025,000; and at the Philadelphia office, \$100,000.

The aggregate of such issues to June 30, 1884, was \$63,505,500, and to September 30, 1884, \$65,295,500.

The following table shows the issues and redemptions by denominations:

Denomination.	Outstand- ing June 30, 1883.	Issued.		Redeemed.		Outstand- ing June 30, 1884.
		During fis- cal year.	To June 30, 1884.	During fis- cal year.	To June 30, 1884.	
Ten dollars	\$36,887,892	\$19,000,000	\$63,994,000	\$8,397,180	\$16,503,288	\$47,490,712
Twenty dollars	35,152,784	20,080,000	61,026,000	7,368,260	13,161,476	47,864,524
Fifty dollars	3,996,935	3,200,000	8,850,000	903,300	2,556,365	6,293,635
One hundred dollars	5,247,220	4,000,000	11,540,000	1,107,900	3,400,680	8,139,320
Five hundred dollars	2,526,000	2,500,000	8,050,000	648,500	4,272,500	4,377,500
One thousand dollars	4,806,000	3,500,000	19,490,000	1,580,000	12,764,000	6,726,000
Total	88,616,831	52,280,000	173,550,000	20,005,140	52,658,309	*120,891,691

* The public debt statement reports outstanding \$119,811,691; a difference of \$1,080,000. This amount, forwarded to an assistant treasurer on June 30, was entered as issued on that day after the report for the debt statement had been made up.

GOLD CERTIFICATES.

There were still outstanding at the close of the year \$2,614,700 gold certificates of the old issue under the act of March 3, 1863; \$888,840 having been redeemed during the year, making the total amount redeemed \$978,520,180.46.

Of the issue authorized by the act of July 12, 1882, there were nominally outstanding on June 30, 1884, \$95,777,960; an increase over the amount a year before of \$16,902,860. The amount held by the Treasury increased in the same period from \$22,571,270 to \$27,246,020, thus leaving actually outstanding \$68,531,940, or \$12,228,110 more than on June 30, 1883.

Of the issues, which aggregated \$41,470,000 during the year, \$34,550,000 was of the New York and \$6,920,000 of the departmental series.

On September 30, 1884, the amount nominally outstanding was \$120,936,620, of which the Treasury held \$33,640,920.

The following table shows the amounts of the series of 1882 issued, redeemed, and outstanding by denominations, to June 30, 1884:

Denomination.	Outstand- ing June 30, 1883.	Issued.		Redeemed.		Outstand- ing June 30, 1884.
		During fis- cal year.	To June 30, 1884.	During fis- cal year.	To June 30, 1884.	
Twenty dollars	\$9,162,900	\$5,520,000	\$14,880,000	\$1,328,140	\$1,525,240	\$13,354,760
Fifty dollars.....	9,050,800	1,300,000	10,500,000	1,231,800	1,381,000	9,119,000
One hundred dollars	8,764,400	1,400,000	10,300,000	1,060,700	1,196,300	9,103,700
Five hundred dollars	8,042,000	2,250,000	10,500,000	1,590,500	1,798,500	8,701,500
One thousand dollars	12,650,000	4,000,000	17,000,000	2,091,000	2,441,000	14,559,000
Five thousand dollars.....	6,965,000	7,000,000	15,000,000	3,405,000	4,440,000	10,560,000
Ten thousand dollars	24,240,000	20,000,000	50,000,000	13,860,000	19,620,000	30,380,000
Total	78,875,100	41,470,000	128,180,000	24,567,140	32,402,040	95,777,900

EXPRESS CHARGES ON UNITED STATES MONEYS.

In the last annual report a recommendation was made in regard to an appropriation for the expense of transportation of United States moneys sent for redemption, for which an estimate was made by the Secretary of the Treasury, but which failed to receive the favorable action of Congress.

It is submitted that the duty of the Government to bear the expense of replacing these notes has been recognized by the action of Congress in appropriating therefor every year, to and including 1875, and again for the years 1881 and 1882.

The following on this subject is from the last report:

The Government has required of the national banks that they provide, through a deposit in the Treasury, for the redemption of their worn and mutilated notes, and they bear the expense of transportation to this office for such redemption. It would seem that the Government should do at least as much toward keeping in good condition among the people the notes of its own issue, as it requires of the banks in regard to their issues. Otherwise the United States notes now in circulation, many of them already worn and defaced, will in a short time become more wretched in condition and more unfit for use. The gain to the Government, and of course the corresponding loss to the holders, by non-presentation for redemption of the United States notes will be considerable, and it can well afford the comparatively small expense necessary to keep the notes in good condition.

It is natural that the holder of a note, however much it may be defaced, should hesitate to incur the expense of express charges; and thus the note will be kept in circulation as long as it can possibly be used. A note-holder in a city where there is an assistant treasurer may obtain redemption by presentation to that officer, who forwards the notes to the Treasurer at the expense of the Government, payable from another appropriation; but this does not afford equal facilities of redemption to all holders of notes; and it makes necessary an extra count by the assistant treasurer of money which should come directly to this office.

The gold and silver certificates are also rapidly becoming defaced and worn. Although not issued as a circulating medium, but as certificates of deposit, they have, from various causes, passed into the circulation of the country. The charges for transportation of these for redemption have never been borne by the Government; nor is it proposed now to pay any charges where redemption in coin is demanded; but it is submitted that it would be proper to furnish new certificates for those which have been defaced in handling, and that the express charges thereon be paid by the Government. Authority is asked for such payment in any appropriation that may be made.

It is respectfully recommended that for these purposes an appropriation of \$30,000 be asked for, for the remainder of the current year, and one of \$70,000 for the ensuing year.

STANDARD SILVER DOLLARS.

The following table shows the amount of silver dollars coined, on hand, distributed, and outstanding at the close of each year since the coinage was resumed; the percentage of the annual coinage distributed each year; and the percentage of the total coinage outstanding at the close of each year:

Fiscal year ended June 30—	Annual coinage.	Total coinage.	On hand at close of year.	Net distri- bution during year.	Outstand- ing at close of year.	Percent- age of dis- tribution to annual coinage.	Percent- age of out- standing to total coinage.
1878*	\$8,573,500	\$8,573,500	\$7,718,307	\$855,143	\$855,143	9.9	2.9
1879	27,227,500	35,801,000	28,358,589	6,587,268	7,442,411	24.2	20.8
1880	27,033,750	63,734,750	45,108,206	11,184,048	18,626,484	40	29.3
1881	27,637,915	91,372,705	63,249,300	9,496,951	28,123,405	35.8	30.8
1882	27,772,075	119,144,780	87,524,182	3,497,193	31,620,588	12.6	26.5
1883	28,111,119	147,256,899	112,362,510	3,272,791	34,893,389	11.6	23.7
1884	28,093,210	175,350,109	135,810,368	4,652,072	39,540,461	16.6	22.6

* Coinage began in March.

The amount coined to September 30, 1884, was \$182,380,829, of which the Treasury held \$142,340,409. Of this amount \$97,094,881 was for the redemption of silver certificates outstanding. The amount in circulation was \$39,801,953, or about 21.8 per cent. of the total coinage.

The following table shows the coinage and distribution in each month of the fiscal year and to September 30, 1884:

Month.	Monthly coin- age.	Total coined to the end of the month.	On hand at close of the month.	Net distribu- tion during the month.	Outstanding at close of the month.
1883.					
July	\$2,425,000	\$149,680,899	\$113,904,049	\$362,801	\$36,776,250
August	2,340,000	152,020,899	115,002,838	1,241,811	37,018,081
September	2,350,000	154,370,899	116,249,603	2,108,175	39,121,136
October	2,350,050	156,720,949	116,654,550	945,154	40,066,300
November	2,350,000	159,070,949	118,534,491	470,008	40,536,458
December	2,354,170	161,425,119	120,321,091	607,500	41,204,024
1884.					
January	2,350,000	163,775,119	123,798,408	.....	\$9,976,711
February	2,350,000	166,125,119	127,387,802	.....	33,737,227
March	2,300,510	168,425,629	129,409,516	278,886	33,016,113
April	2,300,000	170,725,629	130,947,703	701,813	33,777,926
May	2,310,000	173,035,629	133,151,360	106,343	33,884,269
June	2,320,200	175,355,829	135,810,368	.....	39,545,461
July	2,325,000	177,680,829	138,527,018	.....	39,153,211
August	2,350,000	180,030,829	141,105,297	.....	38,025,532
September	2,350,000	182,380,829	142,578,876	876,421	39,801,953

NOTE.—The difference between the amount "on hand," as stated in this table, and the amount in the Treasury, as it appears in the statement of assets and liabilities (p. 7), is \$229,467. Of this amount \$91,998 consists of dollars not yet shipped on orders for which payment has been made, \$10,000 was in transit between offices, and \$147,469 in dollars held in the silver profit fund of the United States mint at San Francisco.

As usual, the amount outstanding reached the highest point in December, when it exceeded \$41,000,000, an aggregate never before reached. The decrease to June was not as great as in previous years, probably owing to the scarcity of one- and two dollar notes; and on September 30 the amount was \$680,717 greater than on the same date in 1883.

In September last the new vault in the Treasury building at Washington, having been completed, was turned over to the Treasurer and the storage of silver coin therein was commenced. This vault, with an

estimated capacity for \$50,000,000 in silver, and the one approaching completion in New Orleans, the capacity of which is estimated at \$28,000,000, will for some time to come relieve the Treasury offices, which have long been over-crowded.

The following table shows the amount of standard silver dollars and fractional silver coin in each office of the Treasury on September 30, 1884, and on that date last year:

Office.	Standard silver dollars.		Fractional silver coin.	
	September 30, 1883.	September 30, 1884.	September 30, 1883.	September 30, 1884.
Treasurer United States, Washington	\$1,125,359	\$4,404,010	\$168,983 04	\$198,495 67
Assistant Treasurer United States:				
Baltimore	2,747,895	3,121,005	298,090 05	474,097 45
Boston	2,101,302	1,800,971	1,017,097 65	1,512,701 05
Chicago	4,638,900	6,648,810	3,059,232 60	3,648,157 00
Cincinnati	979,500	635,500	185,050 00	132,063 00
New Orleans	5,997,960	7,923,208	654,030 17	713,977 27
New York	23,221,000	25,008,000	8,480,313 28	8,877,504 85
Philadelphia	8,400,900	9,384,300	3,897,270 00	3,690,270 00
San Francisco	15,905,000	18,558,000	7,520,214 25	7,770,797 77
Saint Louis	5,001,040	7,810,750	1,440,245 00	2,098,100 00
United States Mint:				
Denver		0		1 40
Carson City	2,112,755	2,876,730	18,094 58	18,030 58
New Orleans	7,200,045	12,042 00	84	25
Philadelphia	3,604,220	7,708,260	31,090 56	34,777 72
San Francisco	80,745,237	32,740,000	25,415 00	34,214 88
United States Assay-office:				
Bolles City		708		8 00
Charlotte, N. C.			123 22	
Helena, Mont.	5,748	350	5,543 90	19,217 35
New York	3,102	9,834	90	71
Saint Louis			5 75	14 39
Total	114,772,044	142,431,407	28,835,619 58	29,421,029 05
Add amount in transit between offices		10,800	107,000 00	71,858 78
	114,772,044	142,441,407	28,942,619 58	29,493,885 83
Deduct amount required to fill orders unpaid	190,000	91,998	149,499 75	19,170 20
Total	114,572,044	142,349,409	28,792,519 83	29,470,715 63

FRACTIONAL SILVER COIN.

The increase in the amount of fractional silver coin held in the Treasury, nearly \$2,700,000 in the year ended September 30, 1884, was chiefly in fifty and twenty-five cent pieces, and the accumulation was probably due in part to the fact that for the first seven months of that period the expense of distribution was not borne by the Government, and in part to the resumption of the issue of one- and two-dollar notes in June, 1884.

There were 3,897 packages, containing \$2,797,369.62 of such coin, forwarded by express in return for currency redeemed or for deposits in the Treasury of lawful money, during the fiscal year, a decrease of 940 in number of packages and over \$1,000,000 from the shipments of the preceding year.

There were sent by registered mail 2,133 packages, containing \$143,804.10, an increase of 588 packages over 1883.

The appropriation to pay the cost of transportation by express was exhausted about October 1, 1883, and the deficiency appropriation was not made until May 1, 1884. It is recommended that an appropriation equal to that made for the current year—\$20,000—be requested for the ensuing year.

The denominations of the fractional silver coin held in each office of the Treasury on September 30, 1884, were as follows:

In office of—	Fifty-cent pieces.	Twenty-five-cent pieces.	Twenty-cent pieces.	Ten-cent pieces.	Five-cent pieces.	Three-cent pieces.	Unassorted.
Treasurer U. S.:							
Washington.....	\$90,260 50	\$86,600 50	.....	\$13,565 20	\$156 75	\$29 07	\$7,883 65
Assist. Treasurer U. S.:							
Baltimore.....	864,548 00	101,153 25	\$28 60	7,896 80	390 80	.81 00	.....
Boston.....	997,388 00	487,145 00	300 00	8,559 00	900 00	.....	23,409 05
Chicago.....	2,534,000 00	1,273,000 00	1,000 00	40,000 00	.....	.....	157 00
Cincinnati.....	60,945 00	43,305 00	381 00	12,405 00	565 00	24 00	14,438 00
New Orleans.....	687,230 00	21,075 75	40 00	5,627 80	.....	8 72	.....
New York.....	6,033,000 00	2,757,000 00	.....	26,000 00	6,000 00	.....	55,504 65
Philadelphia.....	2,168,000 00	1,506,000 00	.....	16,270 00	.....	.....	.....
San Francisco.....	7,431,000 00	337,000 00	.....	7,500 00	1,272 00	25 77	.....
Saint Louis.....	1,559,725 00	526,290 00	170 00	11,665 00	220 00	30 00	.....
U. S. Mint:							
Carson City.....	10,622 00	2,647 25	.....	361 33	.....	.....	.....
Denver.....	.....	.....	.....	.....	.....	.....	1 40
New Orleans.....	.....	.....	.....	.....	.....	.....	25
Philadelphia.....	4,161 00	14,998 25	.....	15,617 48	.....	.....	99
San Francisco.....	8,260 00	2,571 00	.....	23,383 88	.....	.....	.....
U. S. Assay-office:							
Boisé City.....	.....	.....	.....	.....	.....	.....	8 00
Helena.....	.....	.....	.....	.....	.....	.....	19,217 35
New York.....	.....	.....	.....	.....	.....	.....	71
Saint Louis.....	.....	.....	.....	.....	.....	.....	14 30
In transit.....	.....	.....	.....	.....	.....	.....	71,856 78
Total.....	21,949,189 50	7,158,786 00	1,919 60	183,850 09	9,504 05	193 56	192,492 13

MINOR COIN.

The minor coin in the Treasury increased from September 30, 1883, to the same date in 1884, by over \$300,000, chiefly in five and three cent pieces. Of the latter denomination more than 300,000 pieces found their way back to the Treasury during that period, and it is believed that since the reduction of letter postage there is no good reason for the coinage and circulation of this coin, which resembles the silver dime so much as to be troublesome. The recommendation made in the last report, that provision be made for its redemption and retirement by recoinage, is therefore repeated.

The following table shows the denominations of the minor coin held in each office of the Treasury on September 30, 1884:

In office of—	Five cents.	Three cents.	Two cents.	One cent.	Mixed.	Total.
Treasurer United States,						
Washington.....	\$1,074 50	\$11,919 00	\$800 00	\$1,547 47	\$984 18	\$16,325 15
Assistant Treasurer United States:						
Baltimore.....	10,500 00	3,360 00	3,700 00	30,971 73	.....	48,531 73
Boston.....	8,800 00	25,845 00	1,571 00	26,807 00	2,803 18	65,946 18
Cincinnati.....	9,150 00	800 00	1,000 00	6,963 35	1,003 00	19,006 35
Chicago.....	37,000 00	7,470 00	1,460 00	21,010 00	1 15	66,941 15
New Orleans.....	1,660 70	607 92	77 60	1,222 70	.....	3 658 92
New York.....	105,245 00	18,600 00	1,630 00	50,061 00	.....	175,536 00
Philadelphia.....	117,228 00	83,049 00	7,265 00	157,678 00	.....	365,220 00
San Francisco.....	13,400 00	1,550 00	140 00	910 00	.....	16,000 00
Saint Louis.....	14,350 00	7,629 66	106 34	504 76	.....	22,650 76
United States Mint:						
Denver.....	.....	.....	.....	.....	13	13
Philadelphia.....	.....	.....	.....	.....	28,949 45	28,949 45
United States Assay-office:						
Boisé City.....	.....	.....	.....	.....	6 15	6 15
Charlotte, N. C.....	.....	.....	.....	.....	34	34
Helena, Mont.....	.....	.....	.....	.....	240 49	240 49
New York.....	.....	.....	.....	.....	79	79
Saint Louis.....	.....	.....	.....	.....	5 91	5 91
Total.....	318,408 20	160,920 58	17,749 94	297,796 01	34,144 77	820,019 50

FRACTIONAL CURRENCY.

The amount of fractional currency redeemed during the year was \$20,629.50; less than one-half the amount redeemed during the preceding year. The amount outstanding at the close of the year was \$15,355,999.64. The amounts redeemed annually since the issue ceased in 1876, are as follows:

Year.	Amount.	Year.	Amount.
1877.....	\$14, 043, 458 05	1881.....	\$100, 001 05
1878.....	3, 855, 368 57	1882.....	58, 705 55
1879.....	705, 158 66	1883.....	48, 556 96
1880.....	251, 717 41	1884.....	20, 629 50

Attention is directed to the decrease yearly in the amount of this currency presented for redemption, from which it will be apparent that the estimates carried to the public-debt statement of \$8,375,934, as lost or destroyed, will prove to be far below the actual loss or destruction.

The reports by the national banks, of their condition on June 20, 1884, show that they had then on hand of fractional currency \$473,046.66 only. There are no means of tracing any other considerable amounts, and it is not known that there is much more in existence; so that it is believed that the gain to the Government will be not less than \$14,000,000 of the \$368,724,079.45 of such currency issued.

The following statement shows, by issues, the date when the issue ceased, the amount outstanding at the close of the fiscal year 1884, and the amounts redeemed during the year:

Issue.	Date when issue ceased.	Outstanding June 30, 1884.	Redeemed fis- cal year 1884.
First	May 27, 1863	\$4, 281, 697 40	\$245 36
Second	February 23, 1867	3, 106, 846 70	230 33
Third.....	April 16, 1869	2, 985, 381 44	1, 025 78
Fourth	February 16, 1875	3, 698, 439 03	5, 101 91
Fifth	February 15, 1876	1, 283, 635 07	14, 026 12
Total		15, 355, 999 64	20, 629 50

MUTILATED, STOLEN, AND COUNTERFEIT CURRENCY.

The deductions on account of mutilation, from the face value of United States notes redeemed during the year, amounted to \$1,997, on fractional currency to \$33.86, on silver certificates to \$85, and on gold certificates to \$10. The notes from which these deductions were made have not been passed through the accounts and destroyed, but have been retained in this office for the purpose of comparison with fragments of notes that may hereafter be presented for redemption.

There was also deducted, on account of mutilation, from notes of national banks that have failed, gone into liquidation, or are reducing circulation, \$47.50.

There were detected in remittances of United States notes received for redemption 233 counterfeits, of the nominal value of \$3,484; and in remittances of national bank notes, 62 notes stolen prior to regular issue, with the signatures of the bank officers forged thereon, amounting to \$670, and 452 counterfeits, of the nominal value of \$4,895.

The denominations of the counterfeit notes received and detected were as follows:

Denomination.	U. S. notes.	National-bank notes.
One dollar	\$13	.....
Two dollars	26	\$80
Five dollars	305	1,318
Ten dollars	610	1,060
Twenty dollars	1,180	646
Fifty dollars	1,250	100
One hundred dollars	100	900
	3,464	4,083

Counterfeit fractional currency of the nominal value of \$239.95 and a counterfeit compound-interest note of the denomination of \$50 were also detected.

In February last the several assistant treasurers were requested to report to this office the number of counterfeit silver coins detected in the receipts at their offices. Including those detected in this office, the number from February 1, 1884, to September 30, 1884, was as follows:

	Amount received.	Number of counterfeit.
Standard silver dollars	\$17,196,068	1,684
Half-dollars	2,715,899	879
Quarter-dollars	2,737,719	708

CERTIFICATES OF DEPOSIT, ACT OF JUNE 8, 1872.

There were issued during the year, under the provisions of the act of June 8, 1872, on deposits of United States notes by national banks, certificates amounting to \$26,870,000; there were redeemed \$27,820,000; leaving outstanding at the close of the year \$12,230,000.

The total issues and redemptions each year, and the amount outstanding at the close of the years, from the date of the first issue, is shown by the following table:

Fiscal year.	Total amount issued.	Total amount redeemed.	Outstanding, as shown by the Treasurer's books.
1873	\$57,240,000	\$25,430,000	\$31,810,000
1874	137,905,000	78,015,000	59,890,000
1875	219,000,000	159,055,000	59,945,000
1876	301,400,000	208,260,000	33,140,000
1877	378,285,000	324,305,000	53,980,000
1878	404,005,000	418,720,000	40,245,000
1879	654,730,000	625,400,000	29,330,000
1880	601,785,000	686,600,000	13,125,000
1881	611,850,000	601,235,000	11,615,000
1882	629,700,000	616,430,000	13,270,000
1883	649,790,000	638,010,000	13,180,000
1884	676,680,000	664,430,000	12,230,000

NOTE.—The amounts outstanding differ from those shown by the Public Debt Statements, for the reason that the reports of issues and redemptions of the last days of the fiscal year at the several offices do not reach the Department until after the statements of the debt are made up.

RECOINAGE OF UNCURRENT COINS.

No appropriation for the recoinage of uncurrent coins was made for the fiscal year 1884; for the current year, however, \$15,000 was appropriated, and in August last \$135,870.27 of fractional silver coin was re-coined, at a loss of \$7,229.58.

It is recommended that Congress be requested to appropriate the same amount for the ensuing year.

SALES OF EXCHANGE.

In addition to the transfers of silver certificates issued upon deposits of gold coin with the assistant treasurer at New York, there were issued during the year, for like deposits, orders payable in gold as follows: Payable at San Francisco, \$1,600,000, on which a premium of \$190.62 was received; payable at New Orleans, \$500,000, at a premium of \$250; and from San Francisco, payable at New York, \$250,000, on which \$750 was realized.

CLEARING-HOUSE TRANSACTIONS.

In January, 1879, the Treasury became a member of the New York clearing-house so far as to make settlements with banks through that institution, instead of separately. It was considered that such an arrangement would be advantageous to the Treasury in aiding resumption and in saving useless handling of money; and in these respects the anticipations have been realized.

There was in force at the time a rule, adopted November 12, 1878, prohibiting the "payment of balances at the clearing-house in silver certificates or silver dollars, excepting as subsidiary coin, in small sums (say under \$10)." Subsequent to the passage of the act of Congress of July 12, 1882, which prescribed that "no national banking association shall be a member of any clearing-house in which such [gold and silver] certificates shall not be receivable in settlement of clearing-house balances," the associated banks resolved that "the resolutions adopted November 12, 1878, be amended so far as they conflict with section 12 of the act of July 12, 1882."

Notwithstanding this formal declaration of compliance with law, neither standard silver dollars nor silver certificates have been or are now offered in settlement of balances at the clearing-house; and the Treasury has refrained from taking any steps to enforce the receipt of either of these descriptions of funds, which have therefore not been used in payment of obligations presented through the clearing-house.

The statements which are presented below show that there has been paid to the associated banks, through the clearing-house, from the 1st day of July, 1882, to the 31st day of October, 1884, a period of two years and four months—

In gold coin and gold certificates	\$405, 985, 000
In United States notes	23, 657, 568
In silver certificates (not paid out at the New York office, but at other points, under the provisions of the circular of September 18, 1880)....	14, 741, 000

During the same period the amounts received by the New York office on account of duties on imports at the port of New York aggregated \$328,533,000, of which there was—

In gold coin and gold certificates	\$208, 590, 000
In United States notes.....	35, 278, 000
In silver coin	335, 000
In silver certificates.....	84, 330, 000

From the reports of silver certificates issued, transferred, and redeemed, and of the amounts received for duties and the amount on hand in the New York office, it appears that, after allowing for the re-issue by the New York office of a portion of those paid in, silver certificates to a large amount have been brought from other points to New York and used in the payment of duties on imports, for which otherwise gold coin or certificates, or United States notes would have been used.

Of the loss of gold to the Treasury through the mode of settlement with the clearing-house, there has been made up to it during the same period \$60,844,000 by means of gold deposits at the New York office, for \$39,771,000 of which silver certificates were issued at Treasury offices in the South and West, and for \$21,073,000 of which silver certificates were paid out at the New York office.

As a consequence of the inability of the Treasury, under the existing practice, to use either the silver dollars or the silver certificates in its settlements with the New York clearing-house, where by far the greater part of its disbursements is made, the available gold ran down from \$155,429,600 on January 1, 1884, to \$116,479,979 on August 12, 1884; while the silver dollars and bullion on hand, not represented by silver certificates outstanding, increased during the same period from \$27,266,037 to \$48,603,958.

As a temporary expedient to stop this drain of gold from the Treasury, the assistant treasurer at New York was directed to use in payments to the clearing-house United States notes to the extent of one-half of the payments. But the amount of these notes in the Treasury, which at the time of the commencement of this mode of payment had accumulated beyond its needs, has now become so much reduced, that they are no longer available for such payments to any considerable extent.

If a return to the former practice of making payments entirely in gold or gold certificates shall result in a continuous loss of gold to the Treasury, not made up to a sufficient extent by receipts of gold from other sources, the question must soon arise for the decision of the Department as to whether it will continue to make in gold or its representative the payments now made through the clearing house, or use in its payments the silver dollars or their representative certificates in some proportion to the relation which silver dollars in the Treasury, not held for certificates outstanding, bear to the available assets, and to an extent similar to that in which they are used at other offices of the Treasury.

In ascertaining what this proportion is, it is to be considered that of the \$134,670,790 in gold coin and bullion now owned by the Government, \$95,500,000 was obtained by the sale of bonds under the resumption act.

If it be held that this amount is available for no other purpose than the redemption of United States notes, the gold which may be used for ordinary payments is \$39,170,790, compared with \$46,831,660 in silver dollars, including bullion, available for the same purposes. Or if it be held that the provision in section 12 of the act of July 12, 1882, suspending the issue of gold certificates whenever the amount of gold coin and bullion in the Treasury reserved for the redemption of United States notes falls below \$100,000,000, is by implication a requirement that this sum shall be held for the redemption of notes, then the balance of gold which may be used for ordinary payments is \$34,670,790.

The following statement shows the transactions of the Treasury with

the New York clearing-house for the past two fiscal years and by months for the last sixteen months :

Date.	Checks sent to the clearing-house.	Checks received from the clearing-house.	Balances due the assistant treasurer.	Balances due the clearing-house.
Fiscal year ended June 30, 1883	\$129,980,110 00	\$327,302,309 62	\$1,602,263 98	\$198,984,463 00
1883.				
July	9,074,257 66	23,226,978 95	.....	14,152,721 29
August	10,524,505 70	22,462,789 27	861,242 42	12,299,525 99
September	10,096,816 27	26,136,031 46	.....	16,039,215 19
October	10,324,684 37	23,080,314 17	380,431 75	13,136,061 55
November	9,110,773 30	25,351,265 57	7,417 90	16,247,910 17
December	9,852,506 32	26,605,052 32	.....	17,252,546 00
1884.				
January	7,882,354 05	20,348,109 97	5,600 67	21,471,446 59
February	9,235,039 76	22,580,455 21	2,075 64	13,348,091 09
March	9,461,406 98	25,270,126 34	.....	15,817,710 36
April	8,983,812 58	22,824,779 82	.....	13,840,967 24
May	13,092,598 63	22,540,655 05	574,421 64	10,022,478 06
June	9,527,244 04	26,106,390 19	.....	16,579,145 55
Fiscal year ended June 30, 1884	116,066,000 26	295,541,948 32	1,831,880 02	180,207,828 08
1884.				
July	8,987,994 32	36,376,004 58	.....	27,439,000 26
August	9,786,396 56	23,887,931 91	56,488 31	13,708,023 66
September	8,614,439 14	19,525,520 63	.....	10,911,081 40
October	8,969,306 13	26,791,477 84	.....	17,822,171 71
Total for two years and four months	282,904,247 01	728,926,182 90	3,050,632 31	449,072,568 20

The kinds of money used in settlement of the balances due the clearing-house were as follows :

Date.	Gold coin.	Gold certificates.	United States notes.	Transfers in silver certificates.	Sundry credits.
Fiscal year ended June 30, 1883	\$41,225,000	\$134,637,000	\$3,602,463 00	\$14,741,000	\$4,680,000
1883.					
July	14,130,000	13,721 29	.....	.....
August	12,190,000	100,525 99	.....	.....
September	15,966,000	73,215 19	.....	.....
October	13,079,000	57,061 55	.....	.....
November	16,237,000	10,910 17	.....	.....
December	17,237,000	15,546 00	.....	.....
1884.					
January	21,456,000	15,446 59	.....	.....
February	13,333,000	15,091 09	.....	.....
March	15,777,000	40,719 36	.....	.....
April	13,670,000	170,967 24	.....	.....
May	9,865,000	157,478 06	.....	.....
June	16,370,000	209,145 55	.....	.....
Fiscal year ended June 30, 1884	179,328,000	879,828 08	.....	.....
July	27,215,000	224,000 26	.....	.....
August	9,380,000	4,328,023 66	.....	.....
September	5,200,000	5,711,081 49	.....	.....
October	9,000,000	8,822,171 71	.....	.....
Total for two years and four months	41,225,000	364,760,000	23,657,568 20	14,741,000	4,680,000

The kinds of money received in payment of duties on imports at the port of New York are shown in the following table:

Data.	United States notes.	Gold coin.	Gold certificates.	Silver certificates.	Silver coin.	Total duties on imports, port of New York.
Fiscal year ended June 30, 1883.....	\$9,859,000	\$30,045,000	\$67,124,000	\$39,842,000	\$150,000	\$146,520,000
1883.						
July	794,000	339,000	11,552,000	1,906,000	18,000	14,609,000
August	791,000	359,000	9,734,000	2,395,000	11,000	13,290,000
September	609,000	385,000	9,364,000	1,682,000	10,000	12,050,000
October	555,000	347,000	8,802,000	1,902,000	10,000	11,616,000
November	593,000	276,000	6,039,000	2,011,000	9,000	8,928,000
December	603,000	260,000	6,657,000	1,809,000	9,000	9,388,000
1884.						
January	884,000	287,000	7,794,000	2,794,000	9,000	11,768,000
February	999,000	253,000	8,148,000	2,661,000	8,000	12,069,000
March	1,250,000	204,000	6,952,000	3,031,000	10,000	11,447,000
April	1,344,000	244,000	5,606,000	2,643,000	18,000	9,855,000
May	1,364,000	312,000	4,318,000	3,282,000	13,000	9,289,000
June	2,005,000	290,000	3,784,000	3,366,000	14,000	9,459,000
Fiscal year ended June 30, 1884.....	11,791,000	3,556,000	38,750,000	29,482,000	134,000	123,713,000
July	2,332,000	206,000	6,813,000	4,247,000	13,000	13,111,000
August	2,781,000	169,000	5,702,000	4,164,000	12,000	12,828,000
September	4,125,000	193,000	3,897,000	3,764,000	13,000	11,992,000
October	4,390,000	183,000	2,452,000	3,331,000	13,000	10,369,000
Total for two years and four months.....	35,278,000	34,852,000	174,238,000	84,330,000	335,000	328,533,000

DEPOSITARY BANKS.

During the fiscal year the public moneys deposited with national banks designated as depositaries amounted to \$129,100,449.35; making a total of such receipts by them since the establishment of the national-banking system of \$4,087,797,294.23.

The balance remaining at the close of the year to the credit of the Treasurer was \$10,716,144.17; and to the credit of disbursing officers, \$3,375,161.01; a total of \$14,091,305.18, to secure the safe-keeping and prompt payment of which there were held United States bonds amounting to \$17,060,000. There were 135 national banks acting as depositaries at the close of the fiscal year.

The utility of these agencies of the Government becomes apparent when it is observed that during the fiscal year \$129,100,449.35 of the receipts into the Treasury were deposited with them, thus saving to the Government the expense and risk of transportation to Treasury offices of funds in many instances needed at the places of receipt for the accommodation of disbursing officers and public creditors.

The transfers of amounts from the banks, at times when the balances approached the limit fixed by the securities on deposit, have been accomplished without expense to the Treasury and with satisfactory promptness.

The following table shows for twenty-one fiscal years the transactions with depositary banks:

Fiscal year.	Receipts.	Funds transferred to depositary banks.	Funds transferred to Treasury by depositary banks.	Drafts drawn on depositary banks.	Balance at close of the year.
1864 ...	\$153,395,108 71	\$816,000 00	\$65,507,674 08	\$28,726,095 88	\$39,076,738 75
1865 ...	587,564 039 14	8,110,264 70	583,697,912 72	415,887 767 81	36,069,802 00
1866 ...	497,566,676 42	18,523,972 02	863,085,503 65	149,772,750 11	24,298,919 34
1867 ...	351,737,083 83	8,403,903 03	331,039,872 57	37,218,312 76	26,182,821 47
1868 ...	235,244,144 75	9,404,392 00	215,311,460 69	22,113,187 93	24,301,709 61
1869 ...	105,160,571 67	10,652,199 44	114,748,877 24	14,800,463 75	8,873,141 72
1870 ...	129,084 041 70	2,406,521 06	111,123,926 18	11,818,228 61	8,484,349 79
1871 ...	99,290,840 85	2,633,129 45	89,428,544 04	13,700,901 61	7,197,015 04
1872 ...	106,104,835 16	3,050,444 05	94,938,608 78	13,635,837 49	7,777,673 00
1873 ...	160,002,743 98	9,004,842 40	108,089,786 76	16,110,519 07	63,185,133 64
1874 ...	91,108,840 70	2,729,958 81	134,869,112 57	12,364,554 52	7,790,292 06
1875 ...	98,228,249 53	1,787,445 00	82,184,304 05	13,657,678 25	11,914,004 89
1876 ...	97,402,227 57	2,445,451 49	80,981,146 90	13,009,616 83	7,870,920 13
1877 ...	106,470,201 23	2,453,196 29	94,276,400 35	14,862,200 68	7,565,776 41
1878 ...	99,781,051 48	2,385,920 38	90,177,963 35	13,606,870 80	6,937,916 32
1879 ...	109,897,525 07	6,800,489 06	100,498,409 29	15,544,058 34	7,183,403 43
1880 ...	119,493,171 94	6,480,634 17	100,641,282 64	15,525,023 03	7,999,058 86
1881 ...	131,820,002 20	6,040,002 40	118,143,724 91	16,388,772 62	8,933,550 79
1882 ...	143,261,541 41	5,256,574 28	129,131,305 07	16,760,925 56	9,610,432 86
1883 ...	145,974,250 86	5,292,840 22	132,075,358 80	18,771,472 81	10,030,092 33
1884 ...	129,100,449 35	5,501,161 18	118,237,722 17	17,688,442 52	10,716,144 17
Total	4,087,797,394 23	114,190,463 30	3,291,178,063 88	897,088,649 57	.....

SPEAKER'S CERTIFICATES.

The attention of Congress is again respectfully directed, through you, to the mode of paying the certificates issued by the Speaker of the House of Representatives to members for their compensation and mileage. The amount of these disbursements is very large, \$1,805,624 having been appropriated for these purposes for the ensuing year. The Treasurer is unable to verify the accounts upon which the certificates are issued, but is nevertheless held responsible, by the accounting officers, for their proper payment. The duty of making these payments should be devolved by law upon a disbursing officer regularly qualified.

PACIFIC RAILROAD SINKING FUNDS.

At the close of the fiscal year United States bonds were held in this office for account of the Pacific Railroad sinking funds established by the act of May 7, 1878 (20 Statutes, 56), as follows:

	For the Union Pacific Railroad Company.	For the Central Pacific Railroad Company.
Bonds issued to Pacific Railways (currency sizes)	\$361,000 00	\$444,000 00
Loan of July 12, 1862, 3 per cents	1,876,450 00	164,900 00
Funded loan of 1867, 4 per cents	82,650 00	199,100 00
Total	2,270,100 00	838,000 00

TRUST FUNDS.

The Indian Trust Fund.

The bonds and stocks of the Indian trust fund in the custody of this office, under the act of Congress of June 10, 1876 (19 Statutes, 58), at the close of the fiscal year, amounted to \$1,808,016.83½. Of this amount

\$280,000 was in bonds issued to the Pacific Railways (currency sixes), and the remainder in State and corporation stocks and bonds, as shown in the table in the appendix.

Interest is due and unpaid on all the bonds of the following-named States, held for account of this fund: Arkansas, Florida, Louisiana, North Carolina, South Carolina, Tennessee, and Virginia. Interest on the remaining bonds, those of the States of Indiana and Maryland, and bonds issued to the Pacific Railways, is paid to date.

Miscellaneous Trusts.

United States bonds are held in trust for the following:

American Printing House for the Blind	\$250,000
Pennsylvania Company	200,000
Manhattan Savings Institution	75,000
Cincinnati Chamber of Commerce	40,000

One hundred and twenty-five thousand dollars in United States three per cent. called bonds, held for account of the Manhattan Savings Institution, have been delivered to the Secretary of the Treasury for redemption for account of said Institution, leaving \$75,000 in United States four per cent. bonds on deposit. These bonds are held in trust for that Institution as indemnity for certain stolen bonds, as provided for by the act of December 19, 1878 (20 Statutes, 589).

The following-described bonds are held in custody in this office for the Secretary of the Treasury, all with the exception of the Louisiana bonds having become the property of the United States, by payment of the principal and interest to the trusts for which they were originally purchased:

Arkansas State bonds	\$625,000
Chesapeake and Ohio Canal bonds	9,000
Louisiana State bonds	566,480
Virginia State bonds	41,800
North Carolina State bonds	13,000

UNITED STATES BONDS HELD FOR NATIONAL BANKS.

At the close of the fiscal year the United States bonds held in trust for the national banks amounted to \$351,207,850. Of this amount \$334,147,850 was held to secure circulation, and \$17,060,000 to secure public moneys, as follows:

To secure circulation.

Bonds issued to Pacific Railways, 6 per cents	\$3,498,000
Funded loan of 1891, 4½ per cents	46,546,400
Funded loan of 1907, 4 per cents	111,690,900
Loan of July 12, 1882, 3 per cents	172,412,550
	<hr/>
	334,147,850

To secure public moneys.

Bonds issued to Pacific Railways, 6 per cents	\$120,000
Funded loan of 1891, 4½ per cents	1,776,500
Funded loan of 1907, 4 per cents	6,776,050
Loan of July 12, 1882, 3 per cents	8,387,450
	<hr/>
	17,060,000

The amount of bonds deposited during the year was \$47,196,600, and of bonds withdrawn, \$69,701,250.

The total movement of bonds held in trust for national banks was \$116,897,850, against \$539,006,000 for the year ended June 30, 1883. The amount of bonds held to secure circulation June 30, 1883, was \$356,596,500, and the amount held June 30, 1884, was \$334,147,850, showing a decrease during the year of \$22,448,650, compared with \$4,126,200 in the preceding year.

There was a decrease of \$28,465,300 in the amount of bonds of the 3 per cent. loan of 1882, held to secure circulation, making a total withdrawal of this class of securities since the first issue, of \$37,271,300. Up to and including June 30, 1884, calls for about \$80,000,000 3 per cents had matured.

During the fiscal year proceeds of called bonds to the amount of \$14,231,740 were deposited in the Treasury to retire outstanding circulating notes.

SEMI-ANNUAL DUTY.

The amount of semi-annual duty assessed upon, and collected from the national banks for the fiscal year, the duty being upon circulation only, was \$3,024,668.24.

The total amount of semi-annual duty collected by this office from the national banks since the organization of the system is, as shown in the appendix:

On circulation	\$58,410,193 21
On deposits	60,940,067 16
On capital	7,855,887 74
Total.....	127,206,148 11

THE REDEMPTION OF NATIONAL-BANK NOTES.

During the fiscal year \$126,152,572.34 in national-bank notes, contained in 23,185 remittances, were presented for redemption, being 22.83 per cent. more than in the preceding year. The smallest monthly receipts during the year were \$7,387,226.93 in September, and the largest \$17,463,933.43 in January; the average monthly receipts were about \$10,500,000. Of the amount presented \$86,922,000, or 68.90 per cent., came from the four cities, New York, Boston, Philadelphia, and Chicago—New York leading in amount with \$54,327,000, or 43.07 per cent., followed by Boston with \$19,971,000, or 15.83 per cent., by Philadelphia with \$6,830,000, or 5.41 per cent., and by Chicago with \$5,794,000, or 4.59 per cent.; the remainder, \$39,230,000, or 31.1 per cent., represents remittances from all other places, and from every section of the country.

The payments made during the year for bank notes redeemed, amounted to \$125,760,169.18. Of this amount, \$77,991,916.83, or 62.02 per cent., was effected by the Treasurer's transfer checks, thus saving the transportation of lawful money. These checks were drawn on all of the assistant treasurers, with due care for the convenience of the party receiving the check; \$24,080,304.62 in United States notes were forwarded by express from Washington, and \$1,173,646.70 in standard silver dollars and fractional silver coin from Washington and the mints; making in all \$25,253,951.32, or 20.08 per cent. of the returns by shipments by express. The remainder of the redemptions, \$22,514,301.03, or 17.9 per cent., was effected by payments at the counter and by credits in account.

The receipts of bank notes for redemption from the principal cities

and the kinds of returns made therefor when compared by percentages are very like those of the preceding year, except that the amounts involved are larger.

The increase of 22.83 per cent. in the amount of bank notes presented for redemption reflects the condition of the mercantile and monetary affairs of the country as shown by reports of increasing business failures and decreasing clearing-house transactions; and it is a continuation in the course that bank-note redemptions have been pursuing year by year since 1881.

The redeemed national-bank notes assorted by banks of issue and disposed of during the year amounted to \$125,379,514; \$26,255,500 of which were forwarded by express to the banks of issue as fit for further use, \$95,616,064 were delivered to the Comptroller of the Currency, and \$3,507,950 were notes of banks which had failed or which had gone into voluntary liquidation before the passage of the act of Congress of July 12, 1882.

The deposits of lawful money made by national banks during the fiscal year for the withdrawal of their circulating notes amounted to \$29,519,570.

Of these deposits, \$1,301,090 were made under the provisions of section 5222 of the Revised Statutes, \$3,287,410 under section 6 of the act of Congress approved July 12, 1882, and \$24,931,070 under section 4 of the act of June 20, 1874, as modified by section 9 of the act of July 12, 1882. Of the latter amount, \$14,231,740 was deposited from the proceeds of United States bonds called for redemption, that were held by the Treasurer as security for circulation. The largest amount deposited under the act of 1874, during any calendar month, was \$1,607,650 in September, falling far below the limit of \$3,000,000 placed upon such deposits by section 9 of the act of July 12, 1882.

The expenditure from the 5 per cent. fund for transporting, redeeming, and assorting national-bank notes during the year was \$160,896.65 on the following accounts: for charges for transportation incurred on remittances of bank notes for redemption to Washington, and on assorted notes fit for circulation forwarded from Washington to banks of issue, \$68,684.11; for salaries, \$88,426.79; for printing and binding, \$1,935.91; for stationery, \$1,133.84; and for all other expenses, \$716. This expenditure is by law required to be assessed on the national banks in proportion to the circulation of each redeemed. There were assorted during the year \$121,911,764 in national-bank notes that are assessable under the law. This amount divided into the expenditure of \$160,896.65 makes an average rate of assessment of \$1.31978 per \$1,000, as against an average rate of \$1.55634 per \$1,000 for the preceding fiscal year, a decrease of 23.656 cents in the expense per \$1,000, and a decrease in the rate of expense of 15.1 per cent.

The fiscal year last ended makes ten years of national-bank note redemptions under the act of June 20, 1874. A brief summary of these redemptions may be of interest:

The aggregate amount of bank notes presented for redemption during the ten years, expressed in round numbers, was 1,404 millions of dollars—a yearly average of 140 millions. The actual redemptions varied widely from this average, running up to 242 millions in 1877 and falling off to 59 millions in 1881; in the one case exceeding the average by 102 millions and in the other falling 81 millions below it. To consider these redemptions in periods of five years shows facts equally striking. For instance, the aggregate amount of bank notes presented for redemption during the first five years (1875–1879) was 978 millions of dollars;

while the aggregate amount for the last five years (1880-1884) was but 426 millions—the former amount being more than 129 per cent. greater than the latter. The yearly average of redemptions for the first five years was 195 millions of dollars; the smallest redemptions being 155 millions in 1875, and the largest 242 millions in 1877; for the last five years the yearly average was 85 millions, the actual redemptions varying from 59 millions in 1881, to 126 millions in 1884. In no year of the last five did the redemptions equal those of any of the first five years. The large redemptions of the years 1875-1879 were to some extent due to the depression in business succeeding the financial and commercial panic of 1873; and the comparatively small redemptions in the last five years (1880-1884) may be attributed to the recovery during those years from the effects of that panic, the increased activity of business, and the benefits attending the resumption of specie payments. The statistics of the ten years show that the redemptions are invariably affected by the business seasons, decreasing in spring and autumn, when trade is active, and increasing in midwinter and midsummer when trade is dull.

The balances of funds held for the redemption of notes of national banks that have failed, gone into liquidation, or are reducing circulation, have for some years past exceeded \$30,000,000.

The following table shows by fiscal years since 1877 the amounts deposited and redeemed, and the balances remaining on hand:

Year.	Failed.			Liquidating.		
	Deposits.	Redemptions.	Balances.	Deposits.	Redemptions.	Balances.
To June 30, 1877.	\$7,018,210 00	\$6,008,281 80	\$919,928 20	\$18,110,848 25	\$14,106,006 45	\$4,004,836 80
Fiscal year 1878.	508,104 50	752,497 50	765,535 20	2,397,610 00	1,810,752 00	4,591,694 80
1879.	814,870 25	636,613 50	943,791 95	2,389,634 00	1,554,086 50	5,427,242 50
1880.	217,008 00	382,116 50	778,683 45	1,056,183 00	1,058,414 50	5,425,010 80
1881.	325,562 50	426,868 50	677,357 45	1,281,961 00	1,144,906 40	5,562,065 40
1882.	975,729 25	533,504 50	1,119,582 20	7,839,995 00	1,769,756 00	11,732,304 40
1883.	452,787 50	722,808 00	849,561 70	7,284,980 00	4,595,598 00	14,421,691 40
1884.	634,780 00	625,212 00	859,129 70	4,484,050 50	5,746,178 50	18,159,568 40

Year.	Reducing.			Aggregate.		
	Deposits.	Redemptions.	Balances.	Deposits.	Redemptions.	Balances.
To June 30, 1877.	\$58,787,815 00	\$50,720,719 00	\$8,066,506 00	\$83,916,368 25	\$70,925,007 25	\$12,991,361 00
Fiscal year 1878.	5,820,313 00	9,446,626 00	4,440,283 00	8,816,027 50	12,009,875 50	9,797,513 00
1879.	6,650,745 00	5,866,001 00	5,225,027 00	9,855,249 25	8,056,701 00	11,596,061 25
1880.	12,870,285 00	4,961,385 00	13,133,927 00	14,143,476 00	6,401,916 00	19,337,621 25
1881.	24,546,513 00	10,773,004 00	26,907,436 00	26,154,036 50	12,844,796 90	33,146,858 85
1882.	11,802,753 00	14,505,346 00	24,204,843 00	20,718,477 25	16,808,606 50	37,056,729 60
1883.	14,915,693 00	18,233,878 50	20,886,657 50	22,653,460 50	23,552,279 50	36,157,910 60
1884.	24,949,069 50	20,486,304 00	25,849,423 00	30,067,900 00	26,857,689 50	39,368,121 10

The bank notes presented for redemption during the first three months of the current fiscal year are 31 per cent. in excess of the amount presented during the corresponding period of the last fiscal year. It was in anticipation of this increase that the Treasurer asked and received an appropriation for ten additional clerks for the current year. Of the clerks thus provided, it has been found necessary thus far to appoint but five, and if the work for the remainder of the year can be performed without any further increase of force, it will be done, as it is proposed to conduct the business of redemptions with the least possible expense to the banks consistent with safety and the requisite celerity.

The assessments made during the year under section 8 of the act of Congress approved July 12, 1882, on national banks making deposits for the retirement in full of their circulation, amounted to \$6,239.72. The assessments previously made under that section were in amount \$12,979.34; making an aggregate fund that has been placed to the credit of the account "Assessments for Retirement of Circulation" of \$19,219.06. Against this fund there will be charged \$4,040.87 for expenses incurred during the year in redeeming the notes of the banks so assessed; and there has been previously charged to the fund, \$3,220.46; making a total charge of \$7,261.33.

WORK OF THE OFFICE.

The tables herein given and appended show the general result of the work of the office, which has not decreased on the whole, although in some particulars there have been changes. It has been sufficient to require diligent and faithful service from all employed thereon.

During the fiscal year the Treasurer was authorized and required in two instances to act as the disbursing officer, for brief periods, of two of the Departments at Washington, viz: for the State Department during the vacancy occasioned by the death of R. O. Morgan, disbursing clerk, and for the Post-Office Department during the vacancy caused by the removal of J. O. P. Burnside, disbursing clerk; the Treasurer making the payments of salaries usually made by those officers, from the dates when they ceased to act until he was relieved by the appointment and qualification of their successors.

The Treasurer is able to commend the management of the offices of the assistant treasurers, and to state that no loss of the public funds has occurred during the year.

RESTORATION OF SALARIES.

The Treasurer on this occasion renews the recommendation annually made that an amount be appropriated sufficient to restore salaries in his office to the amounts formerly paid. He is constrained to ask this as an act of justice to faithful and competent officers holding highly responsible positions, from whose salaries as fixed by statute deductions ought not to have been made, even of sums so small as were taken therefrom.

Very respectfully, your obedient servant,

A. U. WYMAN,
Treasurer of the United States.

Hon. HUGH McCULLOCH,
Secretary of the Treasury.

REPORT OF THE REGISTER OF THE TREASURY.

TREASURY DEPARTMENT,
REGISTER'S OFFICE,
November 1, 1884.

SIR: I have the honor to submit herewith a report of the work performed in the several divisions of this office during the fiscal year ended on the 30th of June last.

The work of the loan division decreased on account of the cessation of the operation of refunding the national debt, and the clerical force in that division has been reduced from 35 persons to 23 persons in the aggregate.

The work of the currency division having diminished somewhat, the force there has been reduced also.

The surplus force has been detailed to other divisions and bureaus where its services were required.

The work of the note and coupon division is nearly two years in arrears, owing to the detail of clerks from that division for the performance of current work in other divisions of pressing importance.

If sufficient room should be furnished, I would be able to bring this work up, but with the present accommodations for that division it will not be possible to do so for a very long time, if at all.

Upon the establishment of the Bureau of Navigation the clerical force, records, and files of the tonnage division of this office were transferred thereto in accordance with the requirements of the sixth section of the act of Congress approved July 5, 1884 (23 Stat. at Large, p. 119).

In the estimates for appropriations for the coming fiscal year the number has been reduced to correspond with the actual requirements of the Bureau.

LOAN DIVISION.

Total number of coupon and registered bonds issued	48,172
Total number of coupon and registered bonds canceled	111,831

AMOUNT ISSUED.

Direct issue (coupon).....	\$41,850 00
Direct issue (registered).....	1,388,900 00
Registered bonds issued in exchange for coupon bonds	18,092,650 00
Registered bonds issued upon transfers, including Spanish indemnity.	161,650,808 75
Total.....	181,174,208 75

AMOUNT CANCELED.

Actual redemption of coupon and registered bonds	\$65,096,550 00
Coupon bonds converted into registered	18,092,650 00
Registered bonds transferred	161,650,808 75
Total.....	244,840,008 75

Amount of canceled coupon bonds (received for exchange and redemption) delivered to note and coupon division	73,059,500 00
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A synopsis of the vault account shows that the amount of blank bonds on hand, of the different loans, July 1, 1883, was :

Coupon bonds	\$1, 116, 950
Registered bonds	896, 675, 850
District of Columbia bonds.....	3, 773, 800
Received during the year:	
From the Secretary of the Treasury.....	123, 650, 000
From the Commissioners of District of Columbia	805, 500
	<u>1, 026, 022, 100</u>
Accounted for as follows:	
United States coupon bonds issued.....	25, 750
United States registered bonds issued, exclusive of Spanish indemnity.	179, 605, 050
District of Columbia coupon bonds issued.....	16, 100
District of Columbia registered bonds issued	1, 502, 000
Delivered to destruction committee:	
United States registered bonds	303, 949. 500
District of Columbia coupon bonds	26, 700
On hand June 30, 1884:	
United States coupon bonds	1, 091, 200
United States registered bonds	536, 771, 300
District of Columbia bonds.....	3, 034, 500
	<u>1, 026, 022, 100</u>

Owing to a cessation of funding operations, the issues show a decrease of 78,748 bonds and \$350,368,000 in amount as compared with the previous year, and represent principally the transfer transactions.

STATEMENT showing the NUMBER and AMOUNT of COUPON and REGISTERED BONDS ISSUED during the fiscal year ended June 30, 1884.

Loans.	Bonds issued.				
	Direct issue, amount.	Exchanges, amount.	Transfers, amount.	Bonds issued.	Total amount issued.
3 per cents of 1882.....R..	\$1, 329, 250	.....	\$43, 413, 850 00	13, 954	\$44, 743, 100 00
4 per cent. consols, 1907.. { C..	25, 750	.....	.....	186	25, 750 00
{ R..	49, 650	\$13, 517, 000	74, 976, 900 00	23, 336	88, 543, 550 00
4½ per cent. funded, 1891...R..	.....	4, 116, 650	87, 267, 500 00	9, 925	41, 384, 150 00
Pacific railroads.....R..	.....	.....	4, 934, 000 00	1, 012	4, 934, 000 00
5 per cent. funded into 3½'s..R..	.....	.....	250 00	8	250 00
5 per cent. funded District Columbia.....R..	.....	76, 000	40, 000 00	116	116, 000 00
2.85 per cent. funded District Columbia..... { C..	16, 100	.....	.....	106	16, 100 00
{ R..	10, 000	383, 000	993, 000 00	522	1, 386, 000 00
Spanish indemnity.....R..	.....	.....	25, 808 75	12	25, 808 75
Total.....	1, 430, 750	18, 092, 650	161, 650, 808 75	48, 172	181, 174, 208 75

STATEMENT showing the NUMBER and AMOUNT of COUPON and REGISTERED BONDS CANCELED during the fiscal year ended June 30, 1884.

Loans.	Bonds canceled.				
	Redemptions, amount.	Exchanges, amount.	Transfers, amount.	Total No. bonds.	Total amount canceled.
3 per cents of 1882	R. \$28,457,000	.....	\$43,412,850 00	23,192	\$71,871,450 00
4 per cent. consols of 1907...	{ C.	\$13,517,000	.....	88,445	13,517,000 00
	{ R. ....	.....	74,976,900 00	81,130	74,976,900 00
4½ per cent. funded of 1891 ..	{ C.	4,116,650	.....	5,180	4,116,650 00
	{ R. ....	.....	37,267,500 00	9,261	37,267,500 00
Pacific railroads	R. ....	.....	4,934,000 00	1,208	4,934,000 00
July and August, 1861, 3½ per cent	R. 712,350	.....	.....	254	712,350 00
March 3, 1863, 3½ per cent	R. 532,550	.....	.....	219	532,550 00
5 per cent. funded, 3½ per cent. R.	34,366,100	.....	250 00	5,048	34,366,350 00
5 per cent. funded, District { C. ....	.....	76,000	.....	85	76,000 00
of Columbia	{ R. ....	.....	40,000 00	40	40,000 00
3.65 per cent. funded, District { C.	19,300	383,000	.....	1,116	402,300 00
of Columbia	{ R. ....	.....	993,000 00	413	993,000 00
Spanish indemnity	R. ....	.....	25,308 75	8	25,308 75
1861—February 3, 6 per cent. { C.	4,000	.....	.....	4	4,000 00
	{ R. 59,000	.....	.....	27	59,000 00
1861—July and August, 6 per { C.	96,200	.....	.....	160	96,200 00
cent	{ R. 117,000	.....	.....	112	117,000 00
1863—March 3, 6 per cent. ... { C.	22,700	.....	.....	28	22,700 00
	{ R. 37,800	.....	.....	26	37,800 00
1881—Funded, 5 per cent. { C.	65,200	.....	.....	120	65,200 00
	{ R. 102,100	.....	.....	94	102,100 00
1862—February 25, 6 per { C.	3,450	.....	.....	30	3,450 00
cent	{ R. 1,000	.....	.....	1	1,000 00
1864—June 30, 6 per cent. { C.	1,000	.....	.....	1	1,000 00
	{ R. ....	.....	.....	.....	.....
1864—10-40's, 5 per cent. { C.	49,800	.....	.....	81	49,800 00
	{ R. 36,100	.....	.....	24	36,100 00
1865—March 3, 6 per cent. ... { C.	1,200	.....	.....	3	1,200 00
	{ R. 2,500	.....	.....	4	2,500 00
1865—Consols, 6 per cent. { C.	67,400	.....	.....	181	67,400 00
	{ R. 2,000	.....	.....	8	2,000 00
1867—Consols, 6 per cent. { C.	122,200	.....	.....	288	122,200 00
	{ R. 82,650	.....	.....	46	82,650 00
1868—Consols, 6 per cent. ... { C.	29,700	.....	.....	76	29,700 00
	{ R. 100,000	.....	.....	10	100,000 00
Oregon war debt.....	C. 650	.....	.....	3	650 00
1858—5 per cent.....	C. 5,000	.....	.....	5	5,000 00
Total.....	65,096,550	18,092,650	161,650,808 75	111,831	244,840,008 75

NOTE AND COUPON DIVISION.

STATEMENT of TREASURY NOTES, INTEREST CHECKS, CERTIFICATES,
an COUPONS COUNTED, ARRANGED, REGISTERED, and EXAMINED.

Authorizing act.	No.	Amount.
One and two years 5 per cent. Treasury notes.		
March 3, 1863	21	\$580 00
Three years 6 per cent. compound-interest notes.		
March 3, 1863, and June 30, 1864	107	2, 980 00
Three years 7 ³ / ₈ per cent. Treasury notes.		
July 17, 1861	4	400 00
June 30, 1864, and March 3, 1865	30	3, 300 00
Total	34	3, 700 00
Gold certificates.		
March 3, 1863	433	473, 840 00
Currency certificates of deposit.		
June 8, 1872	3, 225	27, 630, 000 00
Interest checks.		
July 17, and August 5, 1861 (6 per cent.):		
Final dividend	6	1, 728 00
Continued at 3 ¹ / ₄ per cent.	18	1, 492 74
March 3, 1863 (6 per cent.):		
Final dividend	1	3, 000 00
Continued at 3 ¹ / ₄ per cent.	2, 995	833, 627 42
Funded loan of 1881 (5 per cent.)	53	1, 994 92
Final dividend	16	1, 010 36
Continued at 3 ¹ / ₄ per cent	53, 991	16, 086, 513 68
Loan of 1882 (3 per cent.)	19, 164	6, 350, 415 88
Funded loan of 1891 (4 ¹ / ₄ per cent.)	59, 784	10, 535, 256 47
Consols. of 1907 (4 per cent.)	229, 161	21, 823, 921 50
District of Columbia (3.65 per cent.)	547	198, 280 75
Funded	71	17, 135 00
Pacific railroads	4, 345	5, 814, 526 08
Total	370, 152	61, 668, 902 80

REDEEMED COUPONS DETACHED from BONDS and NOTES.

Arranged numerically	2, 778, 517
Registered	2, 235, 028
Examined	2, 530, 260

REDEEMED UNITED STATES BONDS with COUPONS ATTACHED, EXAM-
INED, REGISTERED, and SCHEDULED.

Loan.	Number.	Amount.	Number of coupons attached.
March 3, 1864 (10-40)	72, 383	\$49, 648, 950	3, 216, 179

NOTE AND FRACTIONAL-CURRENCY DIVISION.

STATEMENT showing the NUMBER of NOTES and AMOUNT of UNITED STATES NOTES, DEMAND NOTES, 4 PER CENT. REFUNDING CERTIFICATES, SILVER CERTIFICATES, GOLD-COIN CERTIFICATES, and FRACTIONAL CURRENCY EXAMINED, COUNTED, CANCELED, and DESTROYED for the fiscal year ending June 30, 1884.

United States notes.	Number.	Amount.
New issue	91, 130	\$939, 000
Series 1869	979, 892	12, 895, 750
Series 1874	109, 672	2, 862, 300
Series 1875	1, 759, 275	13, 788, 700
Series 1878	2, 668, 108	25, 578, 700
Series 1880	14, 812, 246	30, 106, 944
Demand notes	62	520
4 per cent. refunding certificates	8, 409	84, 090
Silver certificates:		
Series 1878, issued at Washington	60, 200	3, 407, 000
Series 1880, issued at Washington	1, 256, 907	14, 891, 100
Series 1878, issued at New York	18, 247	571, 250
Series 1880, issued at New York	97, 804	1, 270, 100
Series 1878, issued at San Francisco	1, 757	256, 850
Gold-coin certificates, 1882:		
Issued at Washington	10, 800	1, 490, 400
Issued at New York	101, 879	23, 076, 600
Fractional currency:		
First issue	1, 804	206
Second issue	1, 706	200
Third issue	4, 374	920
Fourth issue	10, 410	2, 062
Fourth issue, second series	2, 212	1, 106
Fourth issue, third series	3, 012	1, 506
Fifth issue	86, 657	13, 876
	22, 086, 063	130, 738, 739

DIVISION OF RECEIPTS AND EXPENDITURES.

The following statement exhibits the work of this division for the year ended June 30, 1884:

The number of warrants registered during the year for civil, diplomatic, miscellaneous, internal-revenue, and public debt expenditures and repayments was	29, 281
The number of warrants registered for receipts from customs, lands, internal-revenue, direct tax, and miscellaneous sources was	13, 985
The number of warrants registered for payments and repayments in the War, Navy, and Interior (Pension and Indian) Departments was	13, 197
The number of drafts was	84, 811
The number of journal pages required for the entry of accounts relating to the civil, diplomatic, internal-revenue, miscellaneous, and public debt receipts and expenditures was	6, 432
The number of certificates furnished for statements of accounts was	15, 150
The number of accounts received from the First and Fifth Auditors and Commissioner of General Land Office was	29, 726

In the appendix will be found a statement of the receipts and expenditures of the Government, as required by the standing order of the House of Representatives of December 30, 1791, and section 237 of the Revised Statutes; also statements of the money expended and the number of persons employed and the occupation and salary of each person at each custom-house, as required by section 258 of the Revised Statutes.

Very respectfully, your obedient servant,
B. K. BRUCE,
Register.

Hon. HUGH McCULLOCH,
Secretary of the Treasury.

REPORT

OF

THE SECRETARY OF WAR.

WAR DEPARTMENT,
November 21, 1884.

To the PRESIDENT:

I have the honor to submit the following annual report of the administration of this Department:

EXPENDITURES, APPROPRIATIONS, AND ESTIMATES.

The expenditures by requisition under the direction of the Secretary of War during the fiscal year ending June 30, 1884, were as follows :

Salaries, contingent expenses, and postage.....	\$2, 172, 941 86
Military establishment—Army and Military Academy	25, 640, 672 42
Public works, including river and harbor improvements.....	10, 662, 593 59
Miscellaneous objects	3, 856, 668 34
Total	42, 332, 876 21

which included the sum of \$1,586,035.72 not drawn from the Treasury, but credited, under the act of March 3, 1879 (20 Statutes, 420), to the subsidized Pacific railroads for transportation services rendered the War Department during the fiscal year 1884 and prior years. The amount carried to the surplus fund June 30, 1884, was \$1,010,548.13.

The appropriations for the fiscal year ending June 30, 1885, are as follows:

Salaries, contingent expenses, and postage.....	\$2, 088, 624 56
Military establishment—Army and Military Academy	24, 742, 133 50
Public works, including river and harbor improvements.....	15, 687, 485 00
Miscellaneous objects	3, 052, 308 47
Total	45, 570, 551 53

The estimates for the fiscal year ending June 30, 1886, as revised by me, are as follows :

Salaries, contingent expenses, and postage.....	\$2, 118, 315 00
Military establishment—Army and Military Academy	26, 429, 577 45
Public works, including river and harbor improvements and new sea-coast fortifications	18, 497, 460 48
Miscellaneous objects.....	3, 805, 147 65
Total.....	50, 850, 500 58

The estimates for the fiscal year 1886 are below those for 1885, with few exceptions, the principal increase being for fortifications and other works of defense, \$6,303,000; building for the Signal Office, \$350,000; artificial limbs, \$450,000; and support of the National Home for Disabled Volunteer Soldiers, \$199,095.88.

The importance of providing for the defense of the sea-coast and lake frontier is fully set forth in the Annual Report of the Chief of Engineers for the year 1884, and the necessity for the increase of the other items over the amounts appropriated for the present year is explained in the notes which accompany the estimates.

A small increase over the appropriations for the current year is asked to make the compensation of the persons occupying the higher grades in the office of the Secretary of War commensurate with the arduous duties performed by them and to perfect the organization of the force and add to its efficiency. The business of the Department has been constantly increasing during the last ten years, and the labors of the incumbents for whom the increase is requested have become more onerous and exacting. I earnestly recommend that the moderate increase be granted.

STATE CLAIMS.

The act of June 27, 1882 (22 Statutes, 111, 112), authorizes the examination of the claims of certain States and Territories for money expended and indebtedness assumed by them in repelling invasions and suppressing Indian hostilities. The first section of the act authorizes and directs the Secretary of the Treasury, "with the aid and assistance of the Secretary of War," to investigate the claims; but section 2 directs that no higher rate shall be charged than was allowed and paid by the United States for similar services, supplies, &c., "and no allowance shall be made for the services of any person in more than one capacity at the same time, or for any expenditures for which the Secretary of War shall decide there was no necessity at the time and under all the circumstances." It will thus be seen that the whole duty of deciding upon the rates to be allowed and the necessity for all expenditures charged by the States and Territories is devolved upon the Secretary of War. No provision has been made by Congress for carrying the legislation into effect, and the Department has experienced great difficulty in the examination of the claim first presented.

The following claims have been received at this Department: Kansas, September 8, 1882, \$349,320.95; Nebraska, November 27, 1883, \$27,641.43; Nevada, June 5, 1884, \$372,003.11; Texas, first installment, July 9, 1884, \$671,400.29; and Oregon, November 3, 1884, \$369,459.19.

The result of the examination of the claim of the State of Kansas in the Bureaus of the War Department was found to fall short of the requirements of the act, and after the papers and vouchers in this claim, amounting to about 2,500 in number, had been referred and re-referred,

it was deemed advisable to convene a Board of officers to examine and report upon the case. This was done in July last, and the claim, after then undergoing a careful examination in this office, was returned to the Treasury Department with a favorable report upon expenditures of the State to the amount of \$332,308.13. The claim of the State of Nebraska, consisting of 186 vouchers, is in process of adjustment, and it is proposed to take up the other claims as soon as provision is made for their examination, for which an estimate is submitted.

THE ARMY.

Lieutenant General P. H. Sheridan, commanding the Army, reports that since the date of the last report of his immediate predecessor General W. T. Sherman, the Army has enjoyed almost complete rest from active field operations, but that its other duties, consisting of occupation of posts upon the frontiers of Canada and of Mexico and stations near Indian agencies, the protection of Indian reservations, and the guarding of the Indian Territory from intrusion, have been important and laborious. The reports of military commanders show an unprecedented quiet among the Indians, there having been reported during the year no disturbance to cause the firing of a single musket. The renewed invasion of what is called the Oklahoma country, in the Indian Territory, by intruders determined to settle upon lands there, in defiance of laws and of executive proclamations, has required movements of considerable numbers of troops; but the intruders have been again removed beyond the limits of the Territory, and a new military district has been organized, called the District of Oklahoma, under command of Col. Edward Hatch, of the Ninth Cavalry, with a view of preventing recurrence of this trouble. Information received at the War Department indicates that the persistent leader of these intruders is an adventurer who has found a profitable source of money-making in organizing colonies to go into the Territory. As I have heretofore stated, the only penalty for the offense committed by him and those whom he deludes into joining these colonies is the fine which may be imposed under section 2148 of the Revised Statutes, and the fine cannot be collected; and I renew my recommendation that an amendment of the statute be made providing for imprisonment, as it is believed that such a punishment would prevent his vexatious raids, and save a very large expenditure now incurred in the movement of troops employed in executing the law.

The Lieutenant-General calls attention to the destitute condition of two hundred Seminole-Negro Indians now in the Department of Texas, who have for many years gained their subsistence by the employment of forty of them as scouts and guides in that department. Their services being no longer necessary, and it being regarded as of great importance to increase the allotment of enlisted men in the Engineer Battalion, these scouts and guides were recently discharged, and they

are now without means of support and are homeless. As the Interior Department does not consider that they may lawfully be provided with homes in the Indian Territory, I recommend legislation under which they may be assigned some part of the unoccupied lands in that Territory, so that they may be enabled to earn a livelihood.

In consequence of the rapid extension of railways and the increase of western settlements it has been possible to inaugurate the policy of abandoning many small frontier outposts and concentrating their garrisons at larger permanent stations; and this policy has been continued so far as appropriations for barracks and quarters would permit, the abandoned reservations being turned over to the Interior Department, as provided by law. This concentration, so far as it has been effected, begins to show beneficial effects in greatly increased economy of supply and improvement of the discipline of the troops, resulting from opportunities of instruction which they could not heretofore enjoy in their scattered condition.

Great attention continues to be given to target practice in the Army, and the zeal and friendly rivalry of officers and men at the autumn competitions for the medals offered by the War Department indicate the interest felt in this branch of military education, and the records of the contests show a very gratifying increase in the skill of the competitors.

In pursuance of the requests made by or on behalf of militia organizations of various States, officers have been detailed to inspect summer encampments of State troops, and in some instances companies of infantry and batteries of light artillery have been sent from garrisons of the Army to encamp with the State troops. The Twelfth Regiment of the New York National Guard encamped for a week during the summer at Fort Wadsworth, in New York Harbor, and, under the supervision and instruction of officers of the Fifth United States Artillery, spent the week in practicing with heavy sea-coast guns.

The Lieutenant-General renews the recommendation of General Sherman that there should be made a uniform organization of the three arms of the service by adding two companies, with the corresponding majors, to each regiment of infantry. The reasons for this change were given at some length in my last report, and I concur in the recommendation of the Lieutenant-General.

The Lieutenant-General reports a slight increase in the number of desertions from the Army.

The Artillery School at Fort Monroe and the Cavalry and Infantry School at Fort Leavenworth are continuing their work, from which it is believed that very great good results to the Army.

MILITARY ACADEMY.

The Superintendent of the Military Academy at West Point reports that there were present at the Academy September 1, 1884, three hundred and fourteen cadets, and that there has been an improvement in the tone and discipline of the corps.

It is believed by the Secretary of War that the rigid enforcement of the provision of section 1325 of the Revised Statutes, which prohibits the return to the Academy, except upon the recommendation of the Academic Board, of any cadet found deficient in studies or conduct, has not failed to exercise a beneficial influence at the Academy. Many instances of disregard of the provisions of that law in former years undoubtedly impaired the force of discipline.

Under existing laws, those cadets for whom there may be no vacancies existing in the Army at the time of their graduation must be discharged from the military service. For the last few years the law requiring that there shall be no civilian appointments into the Army until a sufficient number of vacancies exist to provide for the next graduating class, has been literally complied with, civilian appointments into the Army having only been made to fill such vacancies as remained on July 1 of each year, after the appointment of the graduating class of cadets and of meritorious non-commissioned officers recommended according to law; vacancies occurring on and after July 1 of each year being kept open. The Superintendent of the Academy calls attention to the large number of cadets in the class which will be graduated in June, 1886, the class now having eighty-three members; and he expresses the opinion that probably eighty will be graduated. Unless there shall be a change in the law, it will not probably be possible for all of the class of 1886 to be appointed into the Army if any civilian appointments are made before their graduation, as the members of that class and the one which will be graduated next June, together with non-commissioned officers to be appointed under existing laws, will probably be sufficient to take up all the vacancies which will occur in the two years.

One of the most important duties of an officer is the administration of justice under the military code. I believe that it would be highly beneficial to the Army if the instruction in legal principles given at the Military Academy were placed in charge of a professor of law, of the same rank and tenure as is held by the other professors, and I recommend legislation which will accomplish that result.

ADJUTANT-GENERAL'S DEPARTMENT.

The report of the Adjutant-General of the Army shows that out of a total average of 5,474 pupils over fifteen years of age attending colleges and other schools in the United States to which officers of the Army are assigned as military instructors, under existing laws, 2,529 attended infantry drills and 424 artillery drills; that the aptitude of the students is excellent; and that the interest manifested by the faculties of the several institutions of learning where these officers are stationed is steadily increasing. Under a recent amendment of the law forty officers may now be detailed for this work.

The Adjutant-General renews the recommendation, in which I concurred in my report of last year, that provision be made for the retirement of enlisted men on the completion of thirty-five years of honorable and faithful service in the Army. He also suggests the propriety, as a means of decreasing the number of desertions, of a diminution of the term of service from five to three years, believing that there would thus be eliminated a great source of discontent on the part of men whose lack of aptitude for the service makes them dissatisfied and desperate in contemplating the length of the present contract of enlistment entered into by them.

He again recommends that the law relating to the settlement of the clothing account of enlisted men be amended so as to require a bi-monthly settlement instead of a semi-annual settlement. As I have heretofore stated, it is believed that such a change would benefit both the Government and the soldier.

The reduction in the number of unanswered requests for information in regard to pension and other claims, reported last year, still continues. The number of unanswered calls on hand October 1,

1883, was	21, 259
There were received during the year thereafter.....	148, 244
	<hr/> 169, 503
Finished during the year	154, 567
	<hr/>
Remaining on hand October 1, 1884	14, 936

The Adjutant-General calls attention to the fact that nearly twenty years have elapsed since the close of the war, and that the very valuable regimental rolls in his office have, by constant handling in procuring information, mainly in pension cases, become almost destroyed; and that it is absolutely necessary that more than one hundred thousand of them be entirely recopied at once. This work, it is estimated, will take the constant labor of one hundred skilled men for at least three years. The Adjutant-General urges that a suitable force be provided for restoring these records, as the work cannot be done with his present force engaged in answering calls from the Pension Office. I concur in his recommendation.

THE SOLDIERS' HOME.

The Commissioners renew the recommendation, made in their last annual report, that the Government make an appropriation of \$15,000 for the purchase of a small piece of land in the District of Columbia belonging to the Home and now used for the purpose of a national cemetery.

The number of inmates on the rolls of the Home is 719. The large number, 193, admitted during the year is greatly in excess of the number received during any one year since the establishment of the Home.

An extension of the quarters having become absolutely necessary,

I approved a recommendation of the board for the erection of a new building to cost about \$20,000, and also for the erection of another building at an estimated cost of \$70,000. The first building is about completed, and the larger one will probably be finished by the end of the present fiscal year.

The total amount drawn from the permanent fund of the Home during the year, upon resolutions of the Board of Commissioners, approved by the Secretary of War, was \$139,900. Receipts from other sources made the treasurer's total accountability for the year \$191,247.11, all of which is reported by the board as satisfactorily accounted for; the current expenses of maintaining the Home being \$131,857.44.

The board renews its recommendation that legal authority be given to have a force of clerks employed in the Treasury Department, at the expense of the Home, to settle the accounts of the Treasury, upon which considerable sums will, under existing laws, be credited to the permanent fund; and calls attention to what is believed to be an inadvertence in the act approved July 7, 1884, making appropriations for the support of the Government Hospital for the Insane, under which the Board of Commissioners is required to pay the expenses of maintenance of all inmates of the Soldiers' Home admitted to the hospital. The board renews its recommendation, in which I concurred, that the Soldiers' Home should have the same privilege of sending insane patients to the hospital as was granted by the act approved August 7, 1882, for the National Home for Disabled Volunteer Soldiers. Prior to the last legislation the Soldiers' Home did not have to pay the expenses of maintenance of soldiers who became insane within three years after their discharge from the Army; but under this legislation it is required to pay the expenses of all sent to the hospital from the Home.

GOVERNMENT HOSPITAL FOR THE INSANE.

The following is a statement of the persons committed to the Government Hospital for the Insane, under the orders of the Secretary of War, from October 1, 1883, to October 1, 1884. The aggregate is not quite double the number committed during the previous year:

Officers of the United States Army	4
Late volunteer officers	1
Enlisted men of the United States Army	51
Late soldiers of the United States Army	8
Late volunteer soldiers	1
Inmates of the United States Soldiers' Home	3
Military prisoners	3
Employés of the Subsistence Department	1

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MILITARY PRISON.

The Military Prison at Fort Leavenworth has been inspected, as usual, by the Board of Commissioners, and its condition and working found satisfactory.

The number of prisoners on June 30, 1883, was 467; and on June 30, 1884, 523. The usual work of manufacturing boots and shoes, harness, brooms, chairs, and other articles for the Army, was continued during the year.

I again recommend that the officer in charge of the prison be given by law the local rank and pay and allowances of a colonel, to correspond with the importance and character of the duties assigned him.

JUDGE-ADVOCATE-GENERAL'S DEPARTMENT.

The acting Judge-Advocate-General reports the number of trials by general courts-martial during the year to be 2,280, which is an increase over last year of 295; number of convictions for desertion, 700; number of trials by garrison and regimental courts-martial, 10,983, which is an increase over last year of 1,665—making a total increase of trials by courts-martial of 1,960. Total number of trials by general, garrison, and regimental courts during the year ending September 30, 1884-13,263. Number of reports and opinions rendered upon proceedings of courts-martial, miscellaneous questions of law, applications for clemency, and other official business, 1,642; number of applications from the War and Treasury Departments and Pension Office for abstracts of proceedings of trials, answered, 715; and the number of copies of records of courts-martial furnished to parties tried and to the Pension Office, 223—containing 9,679 pages.

He suggests that a small contingent fund be provided for the purchase of law books for the offices of judge-advocates at division and department headquarters, in view of the important legal duties they are called upon to perform.

He also calls attention to the law relating to deposition evidence before courts-martial. The 91st Article of War, the only express statutory provision on this subject (sections 183 and 863 to 870, Revised Statutes, not having been enacted with reference to the administration of military justice), is defective in not specifying before whom depositions shall be taken. Depositions are generally taken before Army officers, who have not, and never had, authority to perform such acts. The law should be changed, so as to empower officers of the Army to administer oaths and take depositions; to authorize courts-martial, or the judge-advocates thereof, to grant a *dedimus potestatem* to take depositions; to authorize such officers to subpoena witnesses, punish for disobeying such subpoena, and to compel witnesses to testify when subpoenaed. Officers of the Judge-Advocate-General's Department and judge-advocates of military courts should also be empowered to administer oaths in any matter where an oath is necessary to be administered in the discharge of their official duties.

QUARTERMASTER'S DEPARTMENT.

At the beginning of the last fiscal year there remained in the Treasury as balances applicable to expenses of prior years the sum of \$1,295,279.01.

There was appropriated for the year the sum of \$10,156,734.85, including \$200,000 for military posts and \$2,500 for road to national cemetery at Chattanooga, Tenn. The balance undrawn on the 30th June, 1884, was \$1,193,962.54.

The Quartermaster-General has recommended that the extra pay required to pay lieutenants of the line regiments detailed for continuous duty in his Department as acting assistant quartermasters ten dollars per month for extra labor and responsibility shall be taken from the appropriation for regular supplies, fixing the maximum devoted to such purpose at \$25,000. In my opinion, the provision requiring that all officers of the Army shall receive all their pay and money allowances from the Pay Department is a wise one, and I recommend that the Pay Department be authorized to pay lieutenants doing duty in the Subsistence or Quartermaster's Department the same sum per month, the amount in the latter case not to exceed a total of \$25,000. In case this recommendation is approved, the appropriation for the Pay Department should be hereafter increased by that amount.

Measures have been taken to appoint post quartermaster-sergeants in conformity to the law. It is hoped Congress will see the wisdom of authorizing the small item in the appropriation for quarters for these and other worthy staff non-commissioned officers.

There have been authorized under my direction sixty-five new buildings, at a cost of \$121,753. The cost of repairs to old buildings has reached the sum of \$419,360. The construction and repairs of wharves have required the sum of \$47,029. Improved water-supply at the several posts has cost \$107,870.

The \$200,000 appropriated by Congress in the sundry civil bill approved March 3, 1883, has been expended upon military posts as follows:

Posts.	Amount.
Fort Spokane, Wash	\$25,000 00
Fort Bliss, Tex	10,000 00
Fort Bridger, Wyo.....	33,500 00
Fort Douglas, Utah.....	19,000 00
Fort Omaha, Nebr	10,999 10
Fort Thornburg, Utah	1,500 90
Fort Lewis, Colo	20,231 86
Fort Leavenworth, Kans.....	4,768 14
Fort Huachuca, Ariz.....	57,820 50
Fort Grant, Ariz.....	9,288 29
Fort Apache, Ariz	2,271 06
Fort Bowie, Ariz.....	3,338 29
Contingencies in Arizona.....	2,281 85
Total	200,000 00

The contracts entered into to build the Army and Navy hospital at Hot Springs, Arkansas, have not proved as successful as was expected ;

the original contractor and his bondsman have both failed in carrying out the contracts for the construction of the building, which is now carried on under the management of Capt. J. W. Jacobs, of the Quartermaster's Department.

Under the act of Congress approved April 7, 1882, the reservation and military buildings at Savannah, Ga., were sold at public auction, realizing \$67,381.88, which sum was covered into the Treasury.

The \$200,000 appropriated for military sites in Texas and the erection of military posts thereon have all been expended except the small sum of \$523.68.

In regard to quartering troops, the views expressed in my report last year must be reiterated as to the necessities for larger posts and of appropriation accordingly. It has become necessary to undertake the removal of the enlisted men from casemate quarters into proper sanitary barracks at several posts on the seaboard, and particular attention is invited to the special estimates presented in some of the most necessitous of these cases.

I have ordered such temporary arrangements made at David's Island, our great recruiting depot on the Atlantic seaboard, as the limited appropriation would admit. An appropriation of \$75,000 to begin the construction of permanent barracks, however, is still urgently recommended.

A very considerable improvement has been made in the buildings and grounds at the recruiting depot at Jefferson Barracks with great advantage to the health of the men, but an appropriation for improvement of the antiquated buildings there is very necessary.

Transportation has been provided by the Quartermaster's Department for 70,875 persons, 5,988 horses and mules, and 145,898 tons of material during the year, at a cost of \$1,999,635.81; of which \$334,732.87 have been paid for transportation of persons, \$958,253.31 for freight, &c., leaving \$706,649.63 paid on miscellaneous accounts or remaining for payment of outstanding liabilities at the close of the year.

The expenses of military transportation not paid out of the regular appropriations comprise that provided over bonded Pacific railroads, in value \$733,278.23, which is credited at the Treasury Department on their debts, and that provided over land-grant railroads, to which 50 per cent. of tariff rates is paid under act of Congress of March 3, 1883, making a special appropriation of \$125,000 for that purpose.

Special attention is again invited to the subject of the railroads indebted to the United States for material sold them in 1865 and 1866. Four of these roads are still indebted, have made no cash payment for several years, and at present there is no probability that a settlement will ever be reached, and it is suggested that the whole matter be transferred to some other branch of the service.

One thousand three hundred and three cavalry and artillery horses have been purchased, at an average cost of \$143.31; also 106 draft

horses, at an average cost of \$181.60; and 16 mules, at an average cost of \$181.62, for the trains.

There were sold 1,143 cavalry and artillery horses, 242 draft horses, and 1,551 mules, for \$158,998.62, which has been deposited in the Treasury, excepting a small sum received from sales to officers.

There were on hand June 30, 1884, 7,764 cavalry and artillery horses, 486 draft horses, 6,213 mules, and 2 oxen.*

There were issued during the year 108,605 cords of wood and 50,999 tons of coal.

Forage issues were as follows: 579,234 bushels of oats, 334,280 bushels of corn, 128,795 bushels of barley, 139,478 bushels of bran, 46,166 tons of hay, 3,351 tons of straw, and 7 tons of fodder.

The aggregate expenditure on account of lighting barracks and quarters, &c., was \$56,631.84.

A supply of wood-sawing machines has been purchased for issue to larger posts where wood is principally used for fuel, and it is believed that economy of fuel will result, with relief to the soldier from labor.

At the beginning of the fiscal year there were on file in the office of the Quartermaster-General, awaiting action, 13,146 miscellaneous claims and accounts, amounting to \$7,084,665.16, and 727 claims for \$231,619.52 and accounts for \$110,243.18 were received during the year. There remained on file July 1, 1884, 12,277 miscellaneous claims and 183 accounts, amounting to \$7,074,536.78.

Claims under act of July 4, 1864, on hand July 1, 1883, and received during the year aggregated 12,087, amounting to \$9,405,803.20. Action was taken on 3,968, amounting to \$2,946,553.12, and there remained on hand July 1, 1884, 8,119 claims, amounting to \$6,459,250.08.

The clothing of the Army has been satisfactory, so far as is known, and efforts have been made to gradually improve both in quality and

* During the present administration the light batteries of the artillery regiments have been increased from five to ten, causing an increase in the number of artillery horses, with attendant expenses. No change has been made in the cavalry arm, but, without apparent detriment to the military service, a general reduction of horses and mules in service has been made, with the following result:

Horses and mules (including cavalry and artillery horses) in 1881.....	18,414
Number on hand at this time.....	13,748
Reduction since 1881 = 25 per cent. +	4,666
Transportation employés in 1881..... 2,011	wages.. \$1,111,355 00
Transportation employés at this time..... 965	wages.. 634,392 16
Reduction in number and annual cost..... 1,046	476,972 84
Reduction in annual cost of forage	543,000 00
Reduction in annual purchases of animals, 1881-1884.....	88,113 06
Annual saving resulting this year from reduction of draft and pack animals, notwithstanding increase of light artillery.....	1,108,085 90

quantity, having careful reference to that economy of expenditure which a just regard for the public service requires.

There were manufactured for the Quartermaster's Department at the Military Prison at Fort Leavenworth, Kansas, 7,413 pairs of brass-screwed boots, 15,691 pairs of brass-screwed shoes, 2,294 pairs sewed boots, 8,352 pairs sewed "post" shoes, 9,224 pairs sewed field shoes, 201 pairs of shoes with flexible soles, 507 pairs "campaign" shoes, 4,500 barrack chairs, and 20,000 corn brooms, at a total cost of \$126,143.34.

There are 82 national cemeteries, containing 321,623 interments. The Mound City and New Albany National Cemeteries roadways have been completed during the year. Extensive improvements are in progress at the Loudon Park Cemetery. Additional land has been purchased for the Cypress Hills National Cemetery, and the grounds are being prepared for use.

The purchase of the Arlington estate, as provided for in the act of March 3, 1883, was completed on March 25, 1884.

By the act of July 7, 1884, an appropriation of \$20,000 was made for the construction of a roadway from Springfield, Mo., to the national military cemetery near that city. Proposals for the work were invited by advertisement, the lowest bid for the work by either of the two routes suggested exceeding \$25,000. As the act provides that none of the money shall be expended until contracts shall be made for the completion of the road for the sum appropriated, it seems impossible to proceed with the work, and the subject is submitted for such action as may seem proper to Congress.

SUBSISTENCE DEPARTMENT.

The report of the Commissary-General of Subsistence shows a total of expenditures during the last fiscal year amounting to \$3,217,224.33. There is included in this sum the amount of subsistence funds embezzled by an officer of the Army who deserted the service, and, it is believed, fled to Mexico. The sum embezzled by him was \$1,905.75; and it may not be improper to remark in this place that this is believed to be the only sum of money lost to the public Treasury by the dishonesty of any person in the military service during your administration. In that time there have been three other instances of dishonesty on the part of officers of the Army, each having funds of different bureaus, but in each case the money embezzled was fully restored to the Treasury before the trial of the officer involved, and each officer was promptly dismissed from the military service by sentence of court-martial.

The Commissary-General of Subsistence again invites attention to the importance of providing for the enlistment of cooks and bakers for the Army. I concur with him in his belief that such a course would add much to the comfort as well as the health of the soldiers, who must

now, in many instances, depend upon the cooking of enlisted men who have no special aptitude for the work.

The Commissary-General reports that at the end of the fiscal year there remained in his office but two claims under the act of July 4, 1864.

The appropriation made by Congress of \$500,000 for the relief of persons made destitute by the floods of the Ohio River and its tributaries, which appropriation was subsequently extended to cover the relief of persons made destitute by floods of the Mississippi River, was disbursed under the direction of the Secretary of War by officers of the Commissary Department assisted by detailed officers of the line; and the zeal and activity displayed by them in disbursing the national bounty merits the highest commendation. Food supplies, clothing, and other necessary articles were given to all made destitute by the floods; in many cases, especially on the Ohio River, the assistance of city authorities being invoked to aid in a proper distribution. \$326,618.24 were expended upon the Ohio River and its tributaries, and \$160,439.34 upon the Mississippi River, leaving unexpended, of the whole appropriation, \$12,942.42.

MEDICAL DEPARTMENT.

The Surgeon-General reports that the total number of deaths in the Army in the last fiscal year was 272, of which 193 were from disease and 79 from injuries. No casualties from actual warfare are reported.

The total number of official demands upon the Division of Records and Pensions during the year for information as to the cause of death in the case of deceased soldiers and for the hospital records of invalids was 65,897, being 53,683 less than the number of similar applications during the previous year. Including the 32,532 applications remaining unanswered at the end of the last fiscal year, the total number of cases to be disposed of was 98,429.

Of the new cases, 55,849 were received from the Commissioner of Pensions, 9,488 from the Adjutant-General of the Army, and 560 from miscellaneous sources.

Replies have been furnished to the proper authorities in 92,148 cases; of which 85,940 were to the Commissioner of Pensions, 5,583 to the Adjutant-General, and 625 to miscellaneous applicants, leaving 6,281 cases to be searched and reported on. In addition to the number of reports above stated as furnished the Commissioner of Pensions, 1,470 have been prepared and furnished the same officer by the Administrative and Miscellaneous Branch of the office, making a total of 87,410 reports in pension cases furnished during the year.

Five volumes of the Medical and Surgical History of the War of the Rebellion (three surgical and two medical) have been completed; the publication of the third medical volume, the last of the series, has been delayed by reason of the long illness of Surgeon J. J. Woodward, lately deceased. The completion of this volume has been placed in the hands

of Surgeon Charles Smart, and it is probable that it will be ready for issue in about one year.

The additions to the library during the past year include about 4,000 volumes and 5,500 pamphlets. By actual count at the end of the fiscal year the library contained 65,738 volumes and 86,503 pamphlets. These include 22,050 volumes of journals and 3,229 volumes of transactions. Of the pamphlets, 38,583 are medical theses. Among the "volumes" are reckoned 1,385 bound volumes of theses and 1,149 bound volumes of pamphlets.

The printing of volume V of the Index Catalogue has been completed and the edition distributed. This volume includes from "Flaccus" to "Hearth." The manuscript of volume VI is in an advanced state of preparation, and the first part of it is now going to press.

The increase in the appropriation has made it possible to arrange to have every new medical work from every country sent promptly to the library, as recommended in the last annual report, and henceforward it is hoped that those who consult this collection will find that it contains the latest information on the subject.

During the past session of Congress a bill to provide for a suitable fire-proof building for the accommodation of the Army Medical Museum and library of the Surgeon-General's Office was reported to and passed by the Senate. A similar bill was reported favorably by the Committee on Public Buildings and Grounds to the House of Representatives, but was not reached in the order of business, and is still pending before the House. It is hoped that during the coming session the necessary legislation to provide for this long and seriously felt want may be completed, that immediate steps may be taken to secure a safe deposit for these valuable collections, now in constant peril from the dangers which surround the present unsuitable building.

I renew the suggestion that such Congressional legislation may be requested as will permit the proceeds of sales of medical supplies, prescribed by a medical officer of the Army, to civilian employes (act making appropriations for support of the Army for the fiscal year ending June 30, 1884, approved March 3, 1883) to be carried to the current appropriation for the Medical Department of the Army, and that the amount may become available for replacing articles sold, as is the case with "the sale of commissary stores to the officers and enlisted men of the Army."

PAY DEPARTMENT.

The Paymaster-General shows in his report that his department has during the last year duly accounted for \$15,180,160.86. He again recommends, with my concurrence, the repeal of the law forbidding payment of mileage to officers for travel over land-grant roads. As mileage is given to an officer not merely to pay his railroad fare but to cover other traveling expenses, and as officers of the Army are the

only public officers against whom a discrimination is made in this regard, I recommend legislation to correct it.

Attention is again invited by the Paymaster-General to his recommendation in relation to permitting officers of the Army to furnish the bonds of an approved guarantee company. I concur in this recommendation, and beg to invite attention to my reasons therefor given at some length in my last annual report.

ENGINEER BUREAU.

The Chief of Engineers presents in his annual report a review of the modern requirements for the defense of our important sea coast cities, and in his comprehensive, but brief, discussion shows not only the urgent necessity of beginning the defensive works which cannot be improvised, but their small cost in comparison with our national resources. Steel forts and turrets to resist guns which can send a projectile weighing a ton through sixty feet of sand,* and which must themselves have like guns, with steam machinery to load and manipulate them, cannot be built in the short time which would be given us by an enemy for preparation after the cessation of diplomatic intercourse; and, as is said by the Chief of Engineers, "the contribution which could be levied from New York alone would probably pay four or five fold the cost of all the fortifications of the important harbors of the country." I trust that the earnest attention of Congress may be invited to this subject, and that adequate appropriations may be made to carry out the views of the Chief of Engineers.

The danger to the efficiency of the torpedo system without the construction of electrical rooms and cable galleries has been dwelt upon in my previous reports, and I cannot urge too strongly the immediate construction of such works.

I invite special attention to the estimate submitted for the commencement of the system of works designed for the defense of the harbors of Portland, Boston, New York, Philadelphia, Baltimore, Hampton Roads, and San Francisco; for the modification and continuation of construction of existing forts and batteries, and for the continuation of the purchase of submarine mines.

The funds with which the works for the improvement of rivers and harbors were prosecuted during the past year were derived from the appropriations of the act of August 2, 1882, together with such few balances as were on hand from previous appropriations. The balance

* The power of modern guns is illustrated by experiments made in Italy October 1, 1884. An Armstrong 100-ton breech-loading gun, having a caliber of 17 inches, was fired, with charges of 772 pounds of powder and forged steel projectiles weighing 1,841 pounds, against targets distant about 100 yards, one of which was a solid steel plate 19 inches thick backed by 20 inches of teak. The other targets varied only in material. Each target was perforated at the first round, the projectile passing through with a considerable surplus of power.

in the Treasury subject to requisition July 1, 1883, for improving harbors and rivers was \$10,021,649.55. The amount appropriated during the fiscal year 1884 was \$1,319,634.62, and the amount drawn from the Treasury during the fiscal year was \$8,228,703.54, leaving a balance of \$3,112,580.63 in the Treasury subject to requisition July 1, 1884. A full statement of unexpended balances June 30, 1884, is appended to the report, and a detailed account of the steps taken to carry out the provisions of law and of the progress and condition of these works will be found in the report of the Chief of Engineers, to which I beg leave to refer.

A report of the progress made between December 1, 1882, and December 21, 1883, by the Mississippi River Commission in carrying out the work intrusted to it was transmitted to Congress January 8, 1884. The subsequent progress of that important work will be made the subject of a special communication to Congress at an early period of the ensuing session.

The examinations and surveys required and provided for in the river and harbor act of August 2, 1882, have been completed. Reports of their results were transmitted from time to time to Congress during its last session. Of the 147 localities enumerated for examination, or survey in the act, 76 were reported as not worthy of improvement, and the results of their preliminary examination were such as to prevent their survey under the act.

The examinations and surveys required and provided for in the river and harbor act of July 5, 1884, have been undertaken and are in progress. The reports thereon will be submitted to Congress from time to time, during the ensuing session, as they are received.

Action was taken during the year upon such plans and locations as were submitted by parties interested of bridges proposed to be built under the authority of Congress, subject to the approval of the Secretary of War.

It has been the rule in cases where Congress has not authorized the construction of a bridge, or has not required the Secretary of War to approve the plan, &c., of a bridge as a condition to its being built, that he neither authorizes nor forbids its construction; but, if satisfied that any intended structure of that kind, or any other, will seriously impair the navigation of the channels of navigable waters of the United States, he endeavors through the Department of Justice to prevent its erection.

A statement is given in the report of the Chief of Engineers of the work accomplished during the year in the removal of wrecks endangering or obstructing navigation, general provision for which is made in the river and harbor act of June 14, 1880.

The arrangements which have been in progress under the direction and supervision, as required by law, of the inventor, Mr. M. J. Adams, for making a practical test of a flume for increasing the depth of water of the Mississippi, for which the sum of \$20,000 was provided by the

river and harbor act of March 3, 1879, and a further sum of \$8,000 by act of August 2, 1882, have been suspended by him before completion, for want of funds, the unexpended balance being on June 30, 1884, \$139.80.

The office of Survey of Territory of the United States West of the 100th meridian was closed February 29, 1884. The 13 atlas sheets referred to in my last annual report have been published, making in all 161 maps and atlas sheets, covering an area of 326,891 square miles.

There was transmitted to Congress at its last session a detailed report by the Commissioner of the Third International Geographical Exhibition and Congress, at Venice, Italy, with the recommendation that the report and accompanying illustrations be ordered to be printed in quarto form, with the view to its wide distribution. (See Senate Ex. Doc. No. 9, Forty-eighth Cong., first sess.) This report contains a description and discussion of the geographical exhibits from twenty-two countries, and those acts of the congress most interesting to the United States, as well as the scope and progress of the discussion and action concerning the determination of a single initial meridian.

The small appropriation asked for the next fiscal year for surveys required for military purposes, and for the publication of maps for the use of the War Department, is earnestly recommended.

Improvement of the South Pass of the Mississippi River.

In my last annual report the history of this work was continued to include September 9, 1883.

During the four quarters ending September 9, 1884, the channel of the pass has been uninterruptedly maintained, with the required dimensions. From September 10, 1883, to September 9, 1884, both dates inclusive, four quarterly payments for maintenance, amounting to \$100,000, and two semi-annual payments of interest on the \$1,000,000 retained, amounting to \$50,000, were made to Mr. Eads, making the total expenditure for the improvement to the latter date \$5,000,000.

ORDNANCE DEPARTMENT.

The report of the Chief of Ordnance exhibits in detail the progress which has been made and the difficulties met during the year in the construction of experimental guns of the power required in modern times for the armament of fortifications.

In my last annual report reference was made to the "Gun Foundry Board" appointed in accordance with the act of Congress approved March 3, 1883—

For the purpose of examining and reporting to Congress which of the navy-yards or arsenals owned by the Government has the best location and is best adapted for the establishment of a Government foundry, or what other method, if any, should be adopted for the manufacture of heavy ordnance adapted to modern warfare for the

use of the Army and Navy of the United States, the cost of all buildings, tools, and implements necessary to be used in the manufacture thereof, including the cost of a steam hammer, or apparatus of sufficient size for the manufacture of the heaviest guns.

Its report was made to the President February 16, 1884, and was by him transmitted to Congress February 18, 1884. The conclusions reached by the Board, after full investigation of the subject here and abroad, are: The establishment of Government gun factories for both the Army and Navy, and the making a permanent and liberal appropriation by Congress for the specific purpose of providing artillery of modern types, this appropriation being a permanent one, to act as a stimulus to private steel manufacturers to enlarge their plant and make gun steel, the Government being a large purchaser. A special estimate for a permanent annual appropriation to carry out this recommendation of the Board was submitted by me, but Congress took no action thereon.

In the closing days of the last session both the Senate and House passed resolutions for the appointment of select committees of Senators and Representatives, respectively, to inquire—

As to the capacity of steel-producing works in the United States to make steel of suitable quality, and sufficient in quantity to furnish metal for guns of high power,
* * * as to the character and sufficiency of machinery and machine-tools in the navy-yards, and also in private foundries and machine-shops in the United States,
* * * and for manufacturing guns for the proper armament * * * of the sea-coast defenses, * * * into the best locations in the United States for manufacturing guns, * * * and the best method of manufacturing and building the same, whether by the Government or by contract with private persons.

The field of this inquiry is large and comprehensive, and includes all that is required for a complete understanding of the subject, and the best means of providing a remedy. The condition of our coast defenses is a matter of grave concern, and calls for immediate action, and I indulge the hope that before the end of the ensuing session Congress will show to the country its appreciation of these national wants by a liberal and permanent annual appropriation.

The difficulties encountered by the Chief of Ordnance in procuring steel from abroad, even for experimental guns, makes manifest, without lengthy comment, the necessity for home production. It is hoped that the very pressing needs of the Department and the difficulties under which it now labors in attempting to secure suitable materials for gun construction may be relieved through the prompt and energetic action of Congress at its next session. The steel-makers of this country will not undertake the production of steel on a scale adequate to our wants without the inducement of being fairly remunerated for their outlays; and the importance of immediate action on the part of Congress for holding out such inducements, by liberal appropriations, cannot be overestimated. The truth of this statement is apparent when it is considered that, even after ample encouragement has been afforded, considerable time must elapse, say two years or more, before the requisite plant

can be designed, constructed, and set up, and the production of steel in masses of sufficient size and of suitable quality for gun-construction can become a practical success. Then the manufacture and test of the experimental or typical guns will require at least two years more, even for the more moderate-sized calibers, before the manufacture of guns in quantity can be proceeded with.

Pending the giving by Congress of means to arm the coast with guns of the best character, the Department is proceeding with the conversion of 10-inch smooth-bore guns into 8-inch rifles, by lining either with a coiled wrought-iron or a forged steel tube; and fifty guns will be thus converted within the year.

About 35,000 small-arms were made at the National Armory in the last fiscal year, and the Lee, Chaffee-Reece, and Hotchkiss magazine guns, recommended by the Board in September, 1882, to be issued to the Army for trial, have, after the delays incident to the production of new arms requiring special tools and machinery, been received from the contractors and completed at the armory, and several hundred of each kind have been issued to the Army for trial by the troops.

The fortification bill, approved July 5, 1884, provides that a sum not exceeding \$15,000 "may be used for the expenses of experiments in the use of dynamite or other high explosive projectiles," and the Department has given all proper assistance and encouragement to private parties having designs or inventions that promised success. The trials thus far have been tentative merely, and nothing has been developed that calls for any detailed mention.

Experiments have been made during the year by the Ordnance Board in firing shells charged with explosive gelatine from service guns. The practicability of making such firings, using ordinary gunpowder as the propelling agent, with safety and certainty, seems now almost assured. Some 8-inch steel shell have been ordered with a view to increasing the penetration in iron plates, and with the expectation that the explosive effect of the gelatine will thereby be considerably augmented.

THE CHIEF SIGNAL OFFICER.

The report of the Chief Signal Officer shows the progress of the usual meteorological work.

During the fiscal year ending June 30, 1884, the entire expenses of the Signal Service were for the first time kept distinct and separate from the expenditures for the support of the Army, and the cost of the service for that year, including the amounts drawn from the Treasury up to October 31, 1884, for the expenses of the above-named fiscal year, under the several titles of appropriations, was \$958,392.95, from which should be deducted the receipts of military telegraph lines covered into the Treasury during the fiscal year, \$17,074.72, leaving the net expenditure \$941,318.23. The appropriations for the fiscal year 1885 aggre-

gate \$1,001,228.93, and the estimates for the fiscal year 1886 amount to \$1,552,659.84.

He recommends an increase in the appropriations, which I submit; but I do not concur in his suggestion that a return be made to the old method of incorporating the appropriations for the support of this service with those for the support of the Army. My reasons are briefly that, even if in the Army bill the amounts to be expended for the Weather Bureau should be made specific and definite, as was not the case until recently, I deem it prejudicial to the interests of the Army that its apparent cost of maintenance should be so largely increased by adding to it the cost of the Weather Bureau service, with which the Army is not concerned. It would seem to be as appropriate to make the river and harbor appropriation a part of the Army expenses because a few Army officers supervise the work. In this connection, I renew my recommendation that the temporary legislation of the last two years, forbidding the expenditure for this service of money not specifically appropriated therefor, be made permanent legislation applying to all future appropriations to be disbursed by the Secretary of War.

The Chief Signal Officer describes with sufficient detail the events connected with the closing of the work of exploration in the Arctic regions and the return of the survivors of the party under Lieutenant Greely. The survivors were relieved at Cape Sabine on June 22, 1884, by a naval expedition under the command of Commander W. S. Schley. The zeal and enterprise of the relieving expedition were such as to entitle all its officers and men to the highest commendation; and while it reached Cape Sabine at the earliest possible moment, the final catastrophe to the few survivors of Lieutenant Greely's party was, but for the rescue, only a few hours distant. The Greely party numbered twenty-five persons, of whom only seven were rescued alive and one died after the rescue. Of the dead, all perished from starvation except an Eskimo, who was drowned, and Private Henry, who was executed by order of Lieutenant Greely for repeated thefts of food from the insufficient supply of the enfeebled and distressed company.

The Secretary of War observes with regret that the Chief Signal Officer has chosen to make, in his annual report, a formal expression of opinion that, after the arrival of the wrecked "Proteus" party on September 13, 1883, at Saint John's, there was still time, "as known from previous experience and shown by subsequent facts, to send efficient relief," stating that "Captain Melville and others volunteered to go, giving their full plans for the relief."

A contention as to what would have been the probable result of an expedition to the Arctic regions started in the autumn, with such preparation as could be made after the middle of September, is now useless for any practical purpose, but a few words may properly be given to the subject, as there may be persons whose humane consideration for the terrible situation in which Lieutenant Greely and his party existed

for months may not be accompanied by a knowledge of the opinion of experienced persons as to the danger of disaster and the little hope of success of any attempt to approach him at that season.

The "Proteus" party, after the wreck of that ship, reached Saint John's September 13, 1883. Lieutenant Garlington, in charge of the party, was on that day asked by telegraph whether anything more could be done that year. He replied, on September 14: "By the time suitable vessels could be procured, filled, provisioned, &c., it would be too late in season to accomplish anything this year." Notwithstanding this response, on the same day, by direction of the Secretaries of War and of the Navy, a further telegram was sent to Lieutenant Garlington asking for full replies from himself and from Commander Wildes, commanding the U. S. steamer "Yantic," upon certain questions propounded, and further asking whether it was a feasible project to charter a steam sealer to go northward, the telegram making also some suggestions as to the outfitting of the ship and men. To this Lieutenant Garlington replied by telegraph, September 15, at length, saying, among other things: "The ultimate result of any undertaking to go north at this time extremely problematical; chances against its success, owing to dark nights now begun in those regions, making ice-navigation extremely critical work. There is no safe winter anchorage on west shore of Greenland between Disco and Pandora Harbor, except, perhaps, North Star Bay, winter quarters of Saunders. However, there is a bare chance of success, and if my recommendations are approved I am ready and anxious to make the effort." He then made suggestions as to hiring a steam sealer, and how it was to be commanded and manned. Commander Wildes replied in these words, under date of September 15: "To charter another foreign ship with foreign crew for this duty to go north at this late season would simply invite fresh disaster. * * * Ship must be American manned and officered by Navy and thoroughly equipped. Unless winter quarters can be reached north of Cape Athol, the attempt would be useless. This cannot be done. Melville Bay will be impassable by October 1 at latest. Ship cannot winter at Upernavik, and cannot sledge north from there."

Under date of September 14, 1883, Chief Engineer George W. Melville, U. S. Navy, submitted a proposed method of relief for the Greely party, which was in substance to use the steamship "Yantic," but there was no suggestion in his proposition of any hope of getting the "Yantic" further north than Cape York, his plan being to sledge northward from there. Under date of September 15, 1883, Dr. James Laws, who was surgeon in the Hartstene expedition sent out to the relief of Dr. Kane in 1855, strongly urged the utter impracticability, from his experience, of any expedition, however well fitted, being able to reach a point where it could be of the slightest service to the Greely party. He said that before an expedition could reach the shores of Greenland it would be dangerous to proceed above Disco Island. Captain George E.

Tyson, who, as is well known, was with Hall's last expedition, and was in command of the party which floated down from the Arctic regions on an ice-floe, offered his services to lead an expedition, but he made no suggestion to go in the autumn of 1883. On the contrary, he expressed, in personal conference, his firm conviction of the impracticability and danger of undertaking such an expedition in the autumn.

Persons whose experience and studies gave their opinions weight were personally consulted by the Secretaries of War and of the Navy, among them being Captain Greer, U. S. Navy, who went to Littleton Island in 1873, in command of the "Tigress," in search of some of the company of the wrecked "Polaris," and Dr. Emil Bessels, who was in charge of the scientific work of the "Polaris," and after its wreck in 1872 spent the winter at Life-Boat Cove. Upon consideration of all information, the conclusion was inevitable that, under the most favorable conditions, a vessel might reach Upernavik, but that it could go no further north in that season. This point is about 700 miles from Littleton Island, and the stretch of water and land between is impassable for boats or sledges after the 1st of October, and oftentimes after the 1st of September. The Arctic night begins at Upernavik about the middle of October, and it was considered that, setting aside all question of its own perils, the best that a new relief expedition at that time could do would be to go a part of the way and wait for the next summer to resume the journey. The testimony was conclusive that sledging north from Upernavik was impossible.

The deplorable situation of the Greely party, then feared but since known to exist, did not lessen the perils which would have beset any relief party started at the beginning of an Arctic winter. The Secretary of War knows of no one whose opinion would be considered, except the Chief Signal Officer, who would not have regarded such an expedition not only as substantially hopeless for any relief earlier than was actually given, but perilous in the extreme, if not foolhardy.

Nothing is more illustrative of the impossibility of overcoming at all times the difficulties of Arctic travel, whether by land or sea, than the fact that two-thirds of Lieutenant Greely's party starved to death at Cape Sabine with 150 pounds of meat untouched at Cape Isabella, distant about 30 miles, and with 250 rations untouched at Littleton Island, at about the same distance, but separated by Smith's Sound. It probably never occurred to any one that the Greely party could not easily reach and use both of these stores.

The conclusion reached, after most anxious and careful consideration, was, on the 19th of September, 1883, embodied in a written memorandum of the Secretary of War and the Secretary of the Navy, which was given in full in my last annual report, and which was in part as follows:

The Secretaries of War and the Navy have decided that it is not practicable to send another expedition to the relief of Lieutenant Greely this year. They have consulted those persons of Arctic experience who are recognized as the best authorities and who are near enough to be reached, and have received letters from some who are more

distant. These consultations lead to the conviction that little can be accomplished after October 20, when there are but few hours of daylight in that region. It is doubtful if any vessel could reach Upernavik before that date, on account of the ice, the rapidly shortening days, and the increasing cold. The danger of wrecking a new relief party in its attempt to reach this place is far greater than should be incurred for the chance of rendering any aid to Greely. From Upernavik no aid could be given except by sledging, and this is regarded as totally impracticable. The short marches and the long halts, compelled by the darkness, would force the sledging parties to consume so much food, while accomplishing brief daily journeys, that they could afford no succor to Greely, and having no depots on the way to draw on, they would soon be compelled to fall back to avoid starvation. Some have suggested sending a vessel to Cape York, but no one advises that it can be reached without imminent peril to the vessel and all on board; and from that point, if attained, the impossibility of sledging is again encountered. The distance from Littleton Island to Cape York is about 225 miles, and to Upernavik 550, and to Disco 800.

It may be added that the Secretary of War, while deploring the terrible loss of life incurred by the Lady Franklin Bay expedition, has never seen reason to doubt the propriety of these conclusions reached by the Secretary of the Navy and himself upon all the considerations which were available to them.

To some of the criticisms made by the Chief Signal Officer in his report no reference seems to be required beyond saying that the "Proteus" court of inquiry, so called, had the merit of basing its conclusions as to the officers with whom it dealt upon such information of facts and conditions as was attainable by the officers themselves at the time of their action as well as by the court. But the expression of the Chief Signal Officer, above referred to, is an intrusion of an official opinion as to the propriety of the course of the Secretaries of War and of the Navy in not hazarding more lives in 1883 in a nearly hopeless adventure upon his telegraphic requests. This excursion into an official jurisdiction beyond his own, and his *dictum* upon the exercise of a superior responsibility which he was not invited to share are extraordinary in their time and place, and are hardly excusable even under whatever of irritation may have been caused by the findings of the "Proteus" court of inquiry. Waiving, however, that consideration, if there had at the time been given more weight to the views of that branch of the public service, under whose management there had been one futile and one disastrous expedition in the northern seas in two successive years, than to the views of men having experience in such matters, it is now hardly to be doubted that we would have had last summer the news of two Arctic calamities instead of one. It is not thought that the public would wish better evidence of this than is to be found in the official report of Commander Schley, from which I quote:

In view of the disaster to the Lady Franklin Bay expedition at Cape Sabine, and the conclusion of the Department last year that it was impracticable to send another vessel north after the "Yantic's" return to Saint John's, September 13, 1883, with the report of the loss of the "Proteus," I would state that the past winter in Melville Bay was the most severe experienced for thirty (30) years.

The winter began earlier than usual and continued with great severity late into the spring of 1884. About the equinox (September 21) cold weather set in, and the temperature steadily fell at Disco, Upernavik, and Tessuisak, until 60° below zero (Fah.) was reached. This continued for a period of sixty (60) consecutive days. Melville Bay was frozen over as far as could be seen from these three points early in October. As the season of continual darkness had come on by October, the navigation of this region would have been well-nigh impossible even if the bay had been open. Under the circumstances any vessel attempting this navigation would have come to grief, if she had not been totally lost.

It can be seen now in the light of this new information that the action of last year was wise and proper.

RECORDS OF THE WAR OF THE REBELLION.

At the date of my last report nine volumes of this work had been published. Since then, volume 10, in two parts, and the first and second parts of volume 11, have been published. The index of part three of that volume is now being revised; volumes 12 to 18, inclusive, have been stereotyped; volume 19 is now in the hands of the Public Printer; and the manuscript of volumes 20 to 24, inclusive, is ready for the Printer.

This work is now being distributed by this Department under the provisions of the act of Congress approved August 7, 1882, which went into effect after the first five volumes had been issued. In consequence, many requests are made of this Department by persons designated by Senators and Members of the House of Representatives, under the act above mentioned, to receive the volumes as they are published from this Department, to obtain some or all of the first five volumes. The Department is unable to supply them, as no provision has been made by law for completing the sets distributed from this Department by furnishing the earlier volumes.

Attention is also invited to the fact that no provision is made by law for the disposition of the later volumes of the work in cases where the Department has been informed of the death of persons designated to receive the work, or of the dissolution of associations so designated.

MONUMENT AT YORKTOWN.

The monument at Yorktown has now been completed at a cost of about \$8,000 less than the sum of \$100,000, appropriated therefor in 1880. The corner-stone was laid on the 19th of October, 1881, the centennial anniversary of the surrender of the forces of Lord Cornwallis. The monument has been erected under the supervision of Lieut. Col. William P. Craighill, Corps of Engineers, in accordance with a design furnished by a commission of artists consisting of Messrs. R. M. Hunt, J. Q. A. Ward, and H. Van Brunt. Some work of grading and ornamenting the site has been ordered, during which the monument will be protected from injury by malicious persons or relic hunters by the superintendent of the work. It will be absolutely necessary, if the monument is to be hereafter preserved from injury, that provision be

made by Congress for the appointment of a custodian at Yorktown, and it is hoped that immediate provision will be made therefor.

BUILDING FOR STATE, WAR, AND NAVY DEPARTMENTS.

The approaches of the north wing of this building were finished on June 18, 1884, and this work completed the north wing. The total cost of the north wing has been \$1,912,094.92. A large amount of cut granite having been previously collected for the construction of the west and center wings, on January 28, 1884, operations for clearing the site were commenced, and the excavations and work of building have since proceeded with all possible diligence, under the superintendence of Col. T. L. Casey, of the Engineer Corps. It is believed that during the present year all the foundations, and the masonry of the coal-vaults, court-yards, area-walls, sub-basement story, and a part of the basement story throughout, will be completed; and that by the end of the present fiscal year the masonry of these wings will have been erected up to the level of the second story floor.

The need of the War Department for the security of many valuable records, now dispersed in unsafe buildings in the city of Washington, requires that the appropriation of \$500,000 asked for continuing the construction of this building be granted by Congress.

EDUCATION IN THE ARMY.

The officer in charge of education in the Army reports the average daily attendance upon schools, including enlisted men and the children of officers, enlisted men, and civilian employes, as 3,441, and the average daily attendance upon the reading-rooms as 5,480; the number of volumes in all post libraries as 53,710, and the average of volumes circulated bi-monthly as 32,000.

I renew my recommendation that Congress authorize the enlistment of 150 competent instructors, with the rank and pay of commissary sergeants. The officer in charge of the work reports that the one stubborn obstacle to the success of educational work in the Army is the pressing want of competent teachers.

ROBERT T. LINCOLN,
Secretary of War.

P A P E R S

ACCOMPANYING

THE REPORT OF THE SECRETARY OF WAR.

REPORT OF THE LIEUTENANT-GENERAL OF THE ARMY.

HEADQUARTERS ARMY OF THE UNITED STATES,
Washington, November 1, 1884.

SIR: I have the honor to render for your information the following annual report of operations of the Army of the United States, since my assignment to command thereof, November 1, 1883.

I also submit herewith the annual reports of the major-generals commanding the three divisions into which the territory of the United States is divided, with those of the Adjutant and Inspector Generals of the Army, the eight department commanders, the superintendent of the Military Academy at West Point, N. Y., the commanding officer of the Artillery School at Fort Monroe, Va., and the commanding officer of the Cavalry and Infantry School at Fort Leavenworth, Kans.

From these inclosed reports it will appear that at the date of the latest consolidated returns the Army consisted of an aggregate of 2,147 officers and 24,236 enlisted men, distributed as follows:

	Officers.	Men.
General	10	.....
General staff	571	1, 212
Ten regiments of cavalry.....	430	7, 115
Five regiments of artillery	279	2, 596
Twenty-five regiments of infantry.....	856	11, 055
Indian scouts.....		259
Detachments (recruiting parties, &c.)	1	1, 999
Aggregate.....	2, 147	24, 236

The detailed reports of division and department commanders, all rendered by distinguished officers, are so complete that they leave little for me to say.

Since the date of the last annual report submitted by my immediate predecessor in command of the Army, General W. T. Sherman, the Army has enjoyed almost complete rest from active field operations, but its other duties, consisting of occupation of posts upon the frontiers of Canada and of Mexico, with stations near Indian agencies and protection of Indian reservations, have been important, and in some places very active, laborious and annoying, especially in guarding the Indian Territory.

In maintaining peace in Arizona, where the Indian situation is extremely sensitive, and in the Northwest, where proprietors of cattle ranges have been greatly disturbed at times by appearance of roaming

bands of Sioux, Crows, Northern Cheyennes, and Northern Arapahoes, much activity and exercise of great discretion have been required from both officers and men. A few depredations by comparatively insignificant parties of Indians have involved scouting expeditions by small detachments, but generally speaking the entire territory under supervision of troops has been unusually free from collisions resulting in loss of either life or property.

The periodical invasion of Oklahoma, in the Indian Territory, by intruders determined to settle upon lands there, in defiance of laws and of Executive proclamations, has required movements of troops in that direction, but the incursionists have been again removed to beyond the limits of the Territory, and dispositions have been made of forces commanded by Col. Edward Hatch, Ninth Cavalry, commanding the district of Oklahoma, with a view of preventing recurrence of this trouble.

In referring to the Indian Territory, I desire to invite your attention to recommendations of Brigadier-General Stanley, commanding the Department of Texas, regarding necessity for suitable provision for the Seminole-Negro Indians, some forty of whom, representing about two hundred souls, have been recently discharged from the military service of the United States, in which they had been hired as scouts and guides for troops serving in the Department of Texas.

These Seminoles are a mixed breed of Indians and negroes, mostly descended from the old Seminole tribe, which, both before and after removal from Florida to the Indian Territory, were owners of slaves. Upon breaking out of the war of the rebellion nearly all of the Seminoles and their slaves espoused the cause of the Union, but as their neighbors (the Choctaws, Chickasaws, Cherokees, and Creeks) almost unanimously joined the Southern Confederacy, it was neither agreeable nor safe for the Seminoles to continue living in the Indian Territory. They therefore sent into old Mexico agents who made an agreement with the Mexicans that, if given a reservation in Mexico and permitted to live quietly upon it, they would defend the Mexican frontier against attacks by hostile Comanches and Apaches. Compelled to leave the United States on account of their loyalty to our National Government, whilst crossing Northern Texas, en route to Mexico, they were attacked by a Confederate regiment, and their principal chief was killed. The Confederate attack was repulsed, and the surviving Seminoles, escaping across the Rio Grande, succeeded in reaching their new home.

Unfortunately for them, however, the power of Maximilian as emperor was soon afterward overturned, the agreement giving them a reservation was never ratified by the government of Juarez, and the Seminoles were thrown upon their own meagre resources. Having been attacked while crossing Texas, and recollecting that Texas was at that time hostile to the Government of the United States, the Seminoles resorted to a predatory war upon the Texas frontier of Mexico, and continued it until long after the surrender of the Confederate army under Lee.

It was difficult for us to make the Seminoles comprehend that Texans were again citizens of the United States, but, through an invitation extended to them by Indian Commissioner Parker, under General Grant's administration, the remnant of their tribe was induced to return, and their surrender was received at Fort Duncan, Texas, with the full expectation that they would be restored to the Indian Territory.

In a treaty made with the Cherokees in 1866, what was known as the "Cherokee Outlet" of the Indian Territory was ceded to the United States for purposes of settlement of Indians and freedmen. I have al-

ways thought that the "freedmen" intended by that treaty were the negro slaves (including half-breeds) held in slavery by the Indians of the Indian Territory at the beginning of the war of the rebellion, amongst whom were this poor band of Seminoles now living in and about Fort Clark, Texas.

The Indian Bureau has declined relief to these Indians, and has never made a place for them in the Indian Territory. The able-bodied men having been employed as scouts for troops, their wages have kept the tribe from actual starvation during the past ten or twelve years, but having been necessarily discharged from the military service, they have now lost even this slender means of support. The men made excellent scouts; none were ever better; they were good trailers and were brave in action. Records of the War Department will bear testimony to the many appeals which have been made for a resting place for this small band.

I respectfully call attention, also, to that part of the report of Colonel Gibbon, temporarily commanding the Department of the Platte, which refers to the condition of the Northern Cheyennes and Northern Arapahoes. Appropriations for these Indians should be made with those for the Sioux, with which nation they have been long assimilated by intermarriage. The main points of their history are as follows:

Originally, the Cheyennes and Arapahoes occupied the country south of the Big Bend of the Missouri River, probably best known as the Black Hills. The Sioux invaded this section and drove the Cheyennes and Arapahoes farther south into Southern Nebraska and Kansas. It was here that the buffalo had their summer range, and when peace was finally established between these three tribes, the Sioux habitually came down there to obtain their supply of meat for winter. In course of time the tribes intermarried, and when the Sioux returned from their hunts to their northern home, those of both sexes in the other tribes who had intermarried with them accompanied the Sioux northward, were fully incorporated with them, and became Northern Cheyennes and Northern Arapahoes, while the main Cheyenne and Arapahoe tribes continued to live in the South.

During the Indian war of 1867, 1868, and 1869 the United States troops, fighting for occupation and settlement of Kansas, drove the main Cheyennes and Arapahoes still farther south into the Indian Territory, whilst those who had married into the Sioux Nation continued to live with the latter in the north. Therefore, when Congress made appropriations for the Cheyennes and Arapahoes, these northern fragments of those tribes were neglected for a long time, and have been hard pinched for means of living. When making appropriations for them hereafter, they should be regarded as part of the Sioux Nation, or should be provided for separately.

Every year shows that although the Indian question, so far as hard fighting is concerned, is now practically eliminated from military considerations, the control of Indian reservations in sparsely settled sections, and the encouragement which should be given to actual settlement, involve conditions in the settlement of which the services of the military in the West cannot be safely dispensed with for many years to come.

The excellent opportunity afforded by the past year's unusual repose from active field operations has been seized to effect a few long-needed changes of station of some regiments. The First and the Sixth Cavalry and the Twenty-first Infantry, after a number of years in the Division of the Pacific, were brought eastward into the Division of the Missouri,

and their places supplied by the Second and the Fourth Cavalry and the Fourteenth Infantry. The Twenty-third Infantry, after many years in the Divisions of the Pacific and the Missouri, was transferred from New Mexico to the Lake region in the Division of the Atlantic, exchanging stations with the Tenth Infantry. The interchange of the four cavalry regiments was effected almost entirely by marching, at a minimum of cost for transportation.

In keeping with rapid extension of our vast railway system and continual spread of western settlements, the policy of abandoning small frontier outposts, when no longer needed, and concentration of their garrisons at larger, permanent stations, has been steadily continued so far as appropriations for barracks and quarters, already made by Congress, would permit, useless reservations being turned over to the Interior Department, from time to time, as provided by law. This gradual concentration is already beginning to show beneficial effects in greatly increased economy of supply and in improved discipline of troops, resulting from opportunities for instruction which they could not heretofore enjoy in their scattered condition.

With liberal allowances of ammunition and better facilities for target practice than hitherto, much thought and attention have been given to rifle-firing; the high scores attained in the annual contests for the Army prizes, during the past season, attest a most gratifying progress in this vitally important branch of military instruction. Establishment of the higher grade of sharpshooter has developed many marksmen of wonderful skill in use of the rifle at distances up to a thousand yards, and it would now be impossible for a close line of battle to stand up before a skirmish line composed of our qualified marksmen. The zeal and friendly rivalry displayed by officers and men at the autumn competitions for handsome medals offered by the War Department speak highly for the interest felt in this part of their military education.

At present, the standard gun for the Army is the Springfield rifle. It is an excellent arm, but in my opinion the weapon of the future will be a magazine rifle, or one equaling it in the rapidity with which it may be discharged. We have had offered to us the Lee, the Chaffee-Reece, and the new Hotchkiss magazine rifles. The Government has been considerate enough to appoint a board of officers to ascertain their respective merits, and they were found to stand in the foregoing order. Seven hundred and fifty of each kind have been manufactured at Government expense, and, in order to determine their relative merits in the field, a sufficient number of each kind have been distributed to be placed in the hands of troops, so that they may be given practical trial. Instructions have been issued to render full and careful reports of results obtained. As danger of war with foreign nations seems remote, I think we can wait for still further improvements before finally adopting some good, reliable, standard magazine gun.

Responding to an evident wish of the National Guard of many of the States to be associated with the Regular Army for purposes of assimilation in drill, customs of service, &c., officers have been detailed, whenever requested by State authorities, to inspect summer encampments of State troops. In some instances companies of infantry and batteries of light artillery have been sent from garrisons of the Army to encamp with the State troops. In view of the importance of instruction of New York City regiments in heavy artillery practice, the Twelfth Regiment New York National Guard, Col. J. H. Jones commanding, was authorized to encamp for a week at Fort Wadsworth, New York Harbor, where that regiment had some very creditable target practice with

heavy sea-coast guns, under supervision of officers of the Fifth United States Artillery, stationed at the permanent forts covering the Narrows.

Complying with a special request, on August 6 I personally inspected and reviewed the First Division National Guard of Pennsylvania, Major-General Hartranft commanding, and I take pleasure in certifying to the fine soldierly appearance presented by about 8,000 infantry, cavalry, and light artillery composing that division, encamped for a week on the battle-field of Gettysburg.

I feel greatly interested in the National Guard of the States. In some of them it is placed upon a good footing, but for thorough organization and efficiency of this body of troops I think Congress should designate the number of men which each State should have, and should provide for them arms and camp and garrison equipage, under some wise method of accountability for this property, whenever the State governments themselves appropriate substantial sums of money for support of their respective military systems, in such manner that these sums cannot be affected by party legislation. This is a restriction now guarding appropriations for the National Guard of Pennsylvania and that of a few other States.

Excepting for our ocean commerce and for our seaboard cities, I do not think we should be much alarmed about probability of wars with foreign powers, since it would require more than a million and a half of men to make a campaign upon land against us. To transport from beyond the ocean that number of soldiers, with all their munitions of war, their cavalry, artillery, and infantry, even if not molested by us whilst in transit, would demand a large part of the shipping of all Europe.

As matters pertaining to ships of war belong properly to the Navy, it is not in my province to discuss them, but I most earnestly desire to invite immediate attention to the perfectly defenseless condition of our seaboard cities and their harbors against foreign naval attack. Although submarine torpedoes, fired by electricity from shore stations, form an important feature of harbor defenses, still, unless well protected by strong fortifications, they may be so easily removed by an enemy, or be rendered comparatively harmless by cutting the wires leading to them, that I urgently recommend early beginning of a general system of sea-coast fortifications, to be constructed in accordance with requirements involved by latest improvements in heavy artillery. The permanent works we now possess belong to an obsolete system of fortification, and are practically worthless as defenses against fire of modern heavy guns.

This nation is growing so rapidly, however, that there are signs of other troubles which I hope will not occur and which will probably not come upon us if both capital and labor will only be conservative. Still, it should be remembered that destructive explosives are easily made, and that banks, United States subtreasuries, public buildings, and large mercantile houses can be readily demolished and the commerce of entire cities destroyed by infuriated people with means carried with perfect safety to themselves in pockets of their clothing.

The discipline of the Army is excellent, and I have no schemes to present for its reorganization. For many years of effective service, it has been organized substantially as now, and were I called upon to recommend any change whatever, it would be simply to make a uniform organization for the three arms of service by adding two companies and the corresponding majors to each regiment of infantry. In my opinion, the colonel is the officer who should personally command and lead his

regiment. In our Army, regiments are now merely skeletons, companies averaging only about forty men for duty, but in time of need these can be increased to a hundred men, so that the regiment will then be from a thousand to twelve hundred strong, according as there are ten or twelve companies. This, in my judgment, is quite enough for a colonel to command, in order to obtain the best results. As three regiments should form a brigade, the latter would comprise three thousand men, which number, in my belief, is all that can be skillfully handled by a good brigade commander. A colonel in command of a large, three-battalion regiment is compelled to practically perform the duties of a brigadier-general; he becomes separated from his officers and men in such a way that his active duties on the line of battle have to be delegated to his battalion commanders.

Most of the projects now advanced for Army reorganization are based upon desire for better promotion rather than upon any real need of increase in regimental efficiency. If Congress would only relieve the Army of all officers who are now incapacitated for duty, and whose cases have been passed upon by retiring boards, promotion would soon become rapid enough to satisfy all who are not unreasonable upon this subject.

There are now some eighty or ninety officers, mostly disabled by wounds and exposure during the war, or by wounds and hard services upon the plains during the past nineteen years, who ought to be retired, but for whom there are not places upon the retired list, as now limited by law. It would be an economy for the Government if Congress would especially provide for retirement of these eighty or ninety disabled officers, who are now either at their homes drawing full pay, or at stations performing only light duty, with full pay and public quarters. If retired, they would receive only retired pay and no quarters. If Congress will authorize their retirement, the retired list, as already constituted by law, is sufficient to meet all the wants of the service, and it would not be many years until the deaths constantly occurring would reduce to a much smaller number those now upon the list limited by law to a maximum of four hundred.

I feel deeply interested in improvement of the cavalry arm of the service, composed of ten regiments now reduced to mere skeletons in order to meet the conditions of our peace establishment. By a wise interposition, the Government has retained on the line of the Kansas Pacific Railway, at Fort Riley, Kansas, a beautiful, large reservation. The post and its reservation are situated on the Kansas River, in the garden spot of Kansas, and although many attempts have been made to dispossess the military of this valuable tract of land, we have been able to keep it. It is now contemplated to make it a headquarters for cavalry of the Army. At that place many of the cavalry horses which every year become broken down or otherwise temporarily unfit for service could recuperate and be reissued to troops in a condition 50 per cent. better than that of the new, untrained horses we annually buy from farmers. If the commercial value of horses continues to increase as rapidly as during the past ten years, it may become necessary to raise the horses needed for our military service, and Fort Riley is a place where the Government might advantageously breed such horses for its own uses, as is done in continental Europe.

The cavalry should be fostered and well cared for. If improvements in guns of every caliber continue to be as rapid as during the past fifteen or twenty years, and a good magazine rifle be finally attained, battles will become so destructive to human life that neither side in war will

be able to stand up before the other. Armies will then resort to the spade, the pick, and the shovel; both sides will cover themselves by intrenchments, and any troops daring to make exposed attacks will be annihilated. The old methods of reducing fortified places by means of regular approaches will be overturned by the revolution caused by introduction of modern explosives; the larger force will have to encircle the smaller one, and the length of time the besieged can hold out will directly depend upon their supplies of food and ammunition.

This condition of affairs will too greatly prolong wars, and the natural result will be that eventually the character itself of warfare will become changed, owing to improvements in guns and explosives. Questions at issue between countries will then have to be settled either by arbitration or by waging war, under a new code, on the enemy's commerce upon land. Nations now attack each other's commerce upon the seas; in future they will also destroy one another's commerce upon land.

For this latter kind of warfare men upon horseback will be indispensable. Since, then, we have so good a place at Fort Riley for all purposes of cavalry, an establishment worthy of our great country should be developed there and our cavalry be prepared to take its part, when needed, in the new phase which warfare may assume in the future.

The report of the Adjutant-General of the Army shows a slight increase in the number of desertions. The true explanation of this crime, in many instances, is, in my opinion, as follows:

Men desiring to reach the West are often without means of doing so. Ascribing no value whatever to the sacred oath of enlistment, they become recruits simply and solely in order to procure Government transportation westward, fully intending to desert upon arriving at their western stations. Others, enlisting without this original purpose of deserting, are enticed by the higher wages they find prevailing in the West, or are allured by excitements of mining regions. They invent some valueless excuse for their discontent with the service, and desert at the first convenient opportunity. Some desert viciously, without any particular reason; after deserting they go to some remote place, where they are unknown, re-enlist under false names, and repeat this crime indefinitely if they so choose.

Many are utterly incorrigible offenders; they enlist, desert, are apprehended or surrender, are tried by courts-martial and are punished by imprisonment. After serving their sentences of confinement, they again enlist at places where they escape recognition and are sent to new companies. Here, becoming dissatisfied with their stations or their officers, even if not detected, they will reveal themselves as former deserters, whereupon the law admits of no alternative but to immediately discharge them, without punishment, as having fraudulently enlisted. They indefinitely repeat this crime of deserting and re-enlisting, just as did the notorious "bounty-jumpers" of the last war. In short, they are the worst elements finding their way into the ranks, and there seems no way of putting a stop to their practices until some method is adopted whereby they may be immediately recognized whenever they present themselves before recruiting officers for the physical examination required at every enlistment.

I have the honor to be, sir, very respectfully, your obedient servant,

P. H. SHERIDAN,

Lieutenant-General, Commanding.

Hon. ROBERT T. LINCOLN,

Secretary of War.

REPORT OF THE ADJUTANT-GENERAL.

HEADQUARTERS OF THE ARMY,
ADJUTANT-GENERAL'S OFFICE,
Washington, October 15, 1884.

GENERAL: Pursuant to your instructions, I have the honor to submit the annual returns of the Army:

A.—Organization of the Regular Army.

B.—Return showing actual strength of the Regular Army.

C.—Distribution of troops in the Department of the East, Division of the Atlantic.

D.—Distribution of troops in the Departments of the Missouri, Texas, the Platte, and Dakota, Division of the Missouri.

E.—Distribution of troops in the Departments of California, the Columbia, and Arizona, Division of the Pacific.

F.—Geographical divisions, departments, and posts, with distribution of troops, post-offices, telegraph stations, and nearest railroad stations or boat landings.

G.—Statement of casualties during the fiscal year ending June 30, 1884.

H.—Statement of assignment of recruits and re-enlistments during the fiscal year ending June 30, 1884.

The number of enlisted men now in the service who are drawing increased pay under act of Congress of August 4, 1854, is as follows:

Five years' continuous service.....	3,451
Ten years' continuous service	1,840
Fifteen years' continuous service	708
Twenty years' continuous service.....	119
Twenty-five years' continuous service.....	86
Thirty years' continuous service.....	49

Total 6,253

The number of those who will become entitled to increased pay under act of Congress of May 15, 1872, during the fiscal year ending June 30, 1886, is—

Re-enlisted pay	539
One dollar per month for third year of service	6,656
Two dollars per month for fourth year of service.....	4,098
Three dollars per month for fifth year of service	3,220

Total 14,513

and the number of enlisted men in service whose terms will expire during the same fiscal year is 3,033.

The officers of the Adjutant-General's Department are properly assigned and in the discharge of their appropriate duties.

DESERTION.

A careful examination of the special reports received on this subject shows that while the number of desertions has not been lessened neither has it materially increased during the past year, and that the causes, real or alleged (enumerated at length in my last report), remain practically the same. It is undoubtedly too true that the great underlying cause is the fact that desertion is not considered as a crime but a mere breach of contract, and the feeling is so widespread that the deserter

feels almost perfect security from arrest. Another cause is disappointment at actual military life, with its restraints and privations, while still another results from faulty administration and improper delegation of powers of control.

Inequality in awards of punishment for the same minor faults, by garrison courts-martial, at the same stations and throughout the Army, has long been a matter for serious consideration. By the "customs of service" (the unwritten law of the Army) the punishment awarded is altogether out of proportion to the offense committed, according to the more humane and reasonable views in respect to enforcing discipline now prevailing throughout the country; and excessive punishments for trivial offenses are just as revolting to the general perception of justice which exists among soldiers as well as among men in civil communities. The evil resulting is twofold. It hardens the offending class, making it worse, and begets in the exemplary class indignation at the injustice done by courts and the low level to which all are brought to the public view. A definite and graded penal code for the guidance of courts is an imperative need.

EDUCATION IN THE ARMY.

While the subject is one of much interest, the present scheme of education in the Army still remains a partial failure, owing to radical defects in the system. To make it a success education should not be purely elementary; attendance must be made part of the military duty of the soldier, and the hours fixed during the time of the day allotted to the performance of duties. The teachers must be thoroughly fitted for their important position, possess suitable rank to secure attention and respect, and, for obvious reasons, should not be subject to the fluctuation of change of stations—at one point leaving a school without a teacher to arrive at another where, from local or other reasons, the teacher will find himself without a school. The question of education in the Army will always remain one of importance, demanding thoughtful attention and consideration, but without legislative action on the above suggestions must necessarily remain in its present condition, more or less barren in results.

RECRUITING SERVICE.

The superintendencies of the general and mounted recruiting services have been maintained during the past year at New York City and Jefferson Barracks, Mo., respectively, with depots at Davids' Island, New York Harbor, and Columbus Barracks, Ohio, for the former, and a subdepot for the latter in New York City, the main cavalry depot being at Jefferson Barracks.

Under the provisions of General Orders, No. 87, August 5, 1884, all disbursements of public funds for the recruitment of the Army are now made by the superintendents on vouchers submitted to them by the several recruiting officers at rendezvous or depots. With a view to facilitate the superintendent of the mounted recruiting service in discharging the additional duties thus devolved upon him, he has been authorized to establish his headquarters in the city of Saint Louis, the change being effected on the 1st instant. The cavalry depot is still maintained at Jefferson Barracks.

On October 1, 1883, recruiting rendezvous were in operation at the following points, viz: Four in the city of New York, two in each of the

cities of Philadelphia, Baltimore, Chicago, Cincinnati, and Saint Louis, and one each at Boston, Providence, R. I., Albany, Buffalo, Rochester, Harrisburg, Pittsburgh, Cleveland, Indianapolis, Detroit, Milwaukee, Louisville, and Washington. Branch rendezvous were also in operation at Troy, N. Y., and Camden, N. J.

In November, 1883, a rendezvous was opened at Charlotte, N. C., and in the following month one at Syracuse, N. Y.

A rendezvous and subdepot was established at Denver, Colo., July 1, 1884, which thus far has proved very successful. Enlistments are made at that point for both the general and mounted services, and the recruits forwarded to regiments in the West and Southwest without being sent to a general depot, thus effecting a considerable saving in the cost of transportation, as Denver is nearly 1,000 miles west of the nearest recruiting depot.

The rendezvous at the following points were closed on the dates indicated: Camden (branch), October 23, 1883; Milwaukee, October 24, 1883; Louisville, May 31, 1884; Indianapolis, June 30, 1884; Troy (branch), Providence, and Charlotte, August 31, 1884; Rochester, September 8, 1884, and Syracuse, September 30, 1884.

During the continuance of the rendezvous at Charlotte, N. C. (from November 20, 1883, to August 31, 1884), the recruits obtained at that station were sent direct to Fort Monroe, Va., for assignment to the batteries stationed at that post.

In cities where only one rendezvous has been in operation, the recruiting officers have been instructed, whenever the necessities of the service have required it, to make enlistments for both the general and mounted services.

During the past year recruiting has progressed satisfactorily, and at times it has been necessary to confine enlistments for both services to the very best class of men, lest the legal strength of the Army should be exceeded.

From the latter part of February, 1884, until early in April recruiting for the mounted service was limited to the *re-enlistment* of soldiers presenting themselves within one month from date of discharge from prior service, and the enlistment of *exceptionally desirable recruits* upon special authority from this office.

Enlistments for the general and mounted services are, at present, restricted to the very best men. The four colored regiments require a large number of recruits, and every effort is being made to obtain them.

In addition to the general and mounted recruiting services, recruiting has been carried on, as heretofore, in the departments constituting the Divisions of the Missouri and the Pacific, by officers stationed at military posts and under the supervision of the assistant adjutant-general at the headquarters of the several departments; and, in the Division of the Atlantic, by recruiting officers at the several posts, designated by their respective regimental commanders.

Recruiting for the Engineer Battalion has, in like manner, been carried on by officers of the battalion at their respective posts, under the supervision of the battalion commander.

The total number of enlistments for the Army (exclusive of the Signal Corps) during the fiscal year ending June 30, 1884, was 9,946; of this number 1,171 were made by regimental recruiting officers, commanding officers of detachments, &c., 6,948 by officers of the general and mounted recruiting services, and 1,827 by department and engineer recruiting officers. Of the 8,775 accepted recruits, 5,232 are native born and 3,543 are of foreign birth, 8,221 whites and 554 col-

ored. The fact that 21,259 applicants who presented themselves for enlistment were rejected by the recruiting officers on account of mental or physical disqualifications, indicates that the officers selected and detailed for this very important duty were actively zealous and efficient in guarding the interests of the service intrusted to their charge.

Respectfully submitted.

R. C. DRUM,
Adjutant-General.

Lient. Gen. PHILIP H. SHERIDAN,
United States Army.

REPORT OF THE INSPECTOR-GENERAL.

HEADQUARTERS OF THE ARMY,
INSPECTOR-GENERAL'S OFFICE,
Washington, D. C., October 15, 1884.

SIR: I have the honor to report that during the past year the officers of the Inspector-General's Department have been stationed and employed as follows, namely:

The undersigned has been in charge of the office at these headquarters, occupied in the various duties pertaining thereto. He has also served on several Retiring Boards; as a member of the court of inquiry in the case of Judge-Advocate-General Swain; and made the inspection of the Soldiers' Home at Washington, D. C., required by act of Congress approved March 3, 1883. This report, together with that of the Board of Commissioners of the Home, was published in General Orders No. 31, Adjutant-General's Office, April 15, 1884, and a copy thereof deposited in each garrison and post library.

Inspector-General Nelson H. Davis has been on duty as inspector-general of the Division of the Missouri. He has been engaged in making inspections and investigations, under orders of the major-general commanding, annual inspections of national cemeteries, and quarterly inspections of the accounts of disbursing officers, under the orders of the Secretary of War and the division commander.

Assistant Inspector-General Roger Jones has been on duty as inspector-general of the Division of the Atlantic. He has been actively engaged in making the quarterly inspections of the accounts of disbursing officers, together with other inspections and investigations, under the orders of the major-general commanding, including a thorough inspection of all the garrisoned and ungarrisoned posts in the former Department of the South.

Assistant Inspector-General Absalom Baird has continued on duty in this office as my assistant. In addition to his regular current duties, he has made several investigations, under the orders of the Secretary of War, and the quarterly inspections of the accounts of disbursing officers of the Army stationed in this city, Baltimore, Pittsburgh, Cincinnati, and elsewhere.

Assistant Inspector-General Joseph C. Breckinridge continued on duty as inspector-general of the Division of the Pacific until May 27, 1884, when, his health having become seriously impaired, he was ordered to his home in Kentucky.

By the act of Congress approved June 23, 1874, the Secretary of War is authorized to "detail officers of the line, not to exceed four, to

act as assistant inspectors-general." Under this act the following officers have been detailed :

Department of the Platte: Lieut. Col. Edwin C. Mason, Fourth Infantry.

Department of Dakota: Capt. Robert P. Hughes, Third Infantry.

Both these officers have continued on duty since my last annual report.

Department of the Missouri: Maj. John J. Coppinger, Tenth Infantry, until November 1, 1883, and since that date Capt. George B. Russell, Ninth Infantry.

Department of the East: Capt. Thomas Ward, First Artillery, until July 10, 1884, and Capt. Edward M. Heyl, Fourth Cavalry, since that date.

The illness of Major Breckinridge, previously alluded to, having prevented his performing active duty as inspector-general of the Division of the Pacific, Lieut. Col. Henry M. Lazelle, Twenty-third Infantry, was, by Special Orders No. 28, Adjutant-General's Office, February 2, 1884, directed to report to the commanding general, Department of California, for inspection duty. He was assigned thereto March 3, 1884, since which time he has performed the duties hitherto devolving upon Assistant Inspector-General Breckinridge.

In the Departments of Arizona, Texas, and the Columbia the following officers have been in charge of the acting assistant inspector-general's office :

Department of Arizona: Maj. Abraham K. Arnold, Sixth Cavalry, until August 15, 1884, and Capt. John G. Bourke, Third Cavalry, since that date.

Department of Texas: Capt. George B. Russell, Ninth Infantry, until October 30, 1883; Lieut. Joseph H. Dorst, Fourth Cavalry, served about one month; and Maj. Samuel S. Sumner, Eighth Cavalry, since December 18, 1883.

Department of the Columbia: Maj. Oliver D. Greene, assistant adjutant-general, until June 1, 1884, and Maj. William F. Drum, Fourteenth Infantry, since July 29, 1884.

Under the orders of the respective department commanders, all the above named officers have performed the duties pertaining to the inspection branch of the service, including the inspection of garrisoned posts, the examination of money accounts of disbursing officers, &c. They have been actively engaged, and their duties have been intelligently and faithfully performed.

During the year nearly all the military posts have been thoroughly inspected by division or department inspectors, and, in addition, the inspections required by paragraph 1327, Army Regulations, have been made.

The supplies furnished by the different supply departments, in respect to quality, quantity, and timely shipment, are reported upon in most cases favorably. The appropriation for construction and repair of barracks and quarters has been properly expended, and considerable improvements have been made.

The reports show that the health of the troops has been generally good, that the discipline and instruction have greatly improved, and that throughout the Army much attention has been given and time devoted to instruction in target practice. In this connection I invite special notice to the following remarks of General Davis and Captain Hughes on this subject.

Inspector General Davis says:

The greater attention given to target practice, with a corresponding proficiency in rifle shooting, and, therefore, increased efficiency of the troops for field service, is very satisfactory.

Skirmish practice is recognized as important. "This very important kind of target practice will not be neglected." (See General Orders, 12, Adjutant-General's Office, February 20, 1884.)

It seems that under existing orders skirmish firing does not receive the consideration it deserves. In skirmish matches only bronze medals are awarded, while in regular target matches gold and silver medals are given. It does not count in determining the order of merit.

As skirmish firing, or what resembles it, is the kind most used in battle, the efficiency of troops there would materially, if not mostly, depend upon their skill in this kind of practice. It is respectfully suggested that skirmish shooting be put upon the same plan of merit as the other kind of target practice, and be classed in a separate and distinct series, and that skill in it be equally rewarded.

I concur in the recommendation of the inspector of the Department of the Missouri that in the annual division contests the teams have five days' shooting, and that the aggregate of all shots be taken in establishing the order of merit, instead of the aggregate of two days of the three days now allowed.

To incite in the Army efforts to acquire skill in rifle shooting, and as a recognition of success, it is recommended that all men who qualify as "marksmen" or "sharpshooters," who secure a place on the Army, division, or department teams, have issued to them the "marksman's rifle," which uses the same ammunition as the service rifle.

Captain Hughes, acting assistant inspector-general, Department of Dakota, says:

The cavalry discard their carbines on the longer ranges in order to get good results. I still think, as said last year, that the policy of having the cavalry thus condemn their own arms is detrimental. I believe the better policy would be to make the percentages (as between the rifles and the carbines) relative instead of positive, and require the cavalry to use their own arms up to and including 600 yards. Sharpshooters, as a matter of course, are not expected to carry carbines.

On the subject of post schools, cemeteries, &c., in the Division of the Missouri, General Davis makes the following remarks:

Post schools in general have been a success for post children, but not so in regard to the enlisted men. The soldier, after his daily military exercises or labor, feels not studiously inclined to pursue the ordinarily dry curriculum of the school.

The records appear to be better kept and more complete than they were last year; but several cases are reported in regard to post and company records where they are not complete and well kept.

Post cemeteries are reported in quite a number of cases to be in poor condition, in some neglected.

Notwithstanding the efforts that have been made to provide superior means of illuminating barracks, &c., which have, no doubt, contributed greatly to the comfort and mental improvement of the troops, some complaints are made of an insufficient supply of light. Thus, from the Department of Dakota we are told that—

The lamps furnished for the purpose of lighting barracks are either too few or too deficient in lighting power to answer requirements. When it is considered that with the present allowance of lamps and oil the men have to spend five hours of their winter evenings in a sort of "half light," the cheerlessness of the barracks can be appreciated.

The operation of the order in regard to the sale of intoxicating liquors at military posts is alluded to by Capt. G. B. Russell, acting assistant inspector-general, Department of the Missouri, as follows:

After much investigation and inquiry, I am convinced that the *prohibition against the sale of liquors* upon military reservations, contained in General Orders 24 of 1881, has not resulted in the diminution of crimes, misdemeanors or breaches of discipline among enlisted men, but to the contrary.

Prohibition against the *use* of liquor by persons in the military service is, in my opinion, futile. Punishment for the *abuse* is already provided for by the Articles of War.

At frontier posts, where the reservations are large, men will go until they find a place from which to obtain liquor; they get intoxicated upon the vilest of compounds, and the result is often utter incapacity to return, "absence without leave," and "desertion."

In my opinion the sale of liquors of such *quality* and *quantity* as post commanders, guided by the post council, may dictate, would be far better than "prohibition."

In the foregoing opinion I am satisfied nearly all officers serving with troops concur.

The Indians have been comparatively quiet during the year, and on this subject Major Arnold, Department of Arizona, says:

All Indians in the department are at peace. The last of the Chiricahuas from Mexico were brought into the agency during the month of May.

The Indian policy of the department commander is working very satisfactorily. All bands on the White Mountain Reservation are cultivating what arable land there is, and, from reports and my own observations, I believe that they will succeed in producing fine crops.

The policy inaugurated should not be disturbed, but should be thoroughly tested, as so far the results have been beyond expectation.

The quarterly inspections of the Leavenworth Military Prison, provided for by section 1348, Revised Statutes, have been made during the year by Inspector-General Davis, and he refers thereto in his annual report as follows:

The condition of the Military Prison, in charge of Bvt. Col. A. P. Blunt, assistant quartermaster, the commandant, has been excellent, the system of management in a marked degree satisfactory and in conformity with the provisions of law establishing it, and the institution has proved a success. The health of the guard and prisoners has been good.

Here are made, for the Army, boots, shoes, harness, brooms, chairs, and (the current year) stove fixtures and stove-pipe.

The past year various improvements in the matter of erecting new buildings, the enlargement of the prison yard by removing 85 feet further west, the west wall (the work now progressing), &c., have been made. Much prison labor has also been supplied the post of Fort Leavenworth.

A large farm garden is cultivated by prison labor which furnishes for the institution vegetables and grain.

At my last inspection (September 9) there were in confinement five hundred and fifty-six prisoners.

It is respectfully suggested that such of the manufactured articles as may be required at military posts west of the Mississippi River be stored at the prison until needed, and then shipped direct to the posts, instead of first shipping them to Jeffersonville Depot, Indiana, and thence transporting them to said posts, to save time and expense.

The matter of concentrating the troops into larger garrisons has been referred to in my previous reports, and in again inviting attention to this important subject, I submit the following views of several inspecting officers. General Davis reports:

Of the sixty-one military posts in this division last October, two have been abandoned and some others are ordered to be. Apparently some of them are in unhealthy localities; at some the water used is reported not good.

The necessity for some of them at the time they were established has, in consequence of the settlements, the construction of railways, and other changes in the country, it is believed, ceased to exist.

The welfare and efficiency of the Army and economy in the service seem to urge a large reduction in their number, with a corresponding increase in the strength of their garrisons. It is hoped the importance of such a change, generally admitted, will be recognized by Congress, and that appropriations of money adequate to effect this purpose will be made.

Lieutenant-Colonel Lazelle, inspector, Division of the Pacific and Department of California, in alluding to his recent inspection of four small posts in the department, remarks as follows:

At no posts were officers' schools, and those for non-commissioned officers evidently excited little interest for either officers or men. Military enthusiasm and spirit were wanting. Company duty was listlessly performed, without emulation or ambition, and there seems to be felt no active incentive except to avoid the criticisms of inspect-

tion. It is natural that at such posts interest in military instruction should flag with only about twenty men for daily drill, with only two or three officers for officers' schools, and four or five men for non-commissioned officers' schools.

Another evil is that of the authority assumed to punish by the post commander to repress disorder. He has not officers to organize a garrison court, and if he waits for them to be ordered for the purpose, his guard-house may fill and guard duty become a burden to the well-behaved men. Good men lose enthusiasm in the duties of so small garrisons, and the bad have greater temptations to indolence and immorality. Though the demands upon our small army may render necessary small posts for a period yet, no doubt can exist as to the military advantages of consolidation.

Lieutenant-Colonel Mason, Department of the Platte, submits the following views:

Since the abandonment of Forts Cameron, Hall, Thornburgh, and Sanders, larger garrisons than formerly have been the rule. * * * The policy of assembling the troops in larger numbers and dispensing with small posts is a move in the direction of increased efficiency, and will result in economy of administration. There is but one small post left in this department, that of Washakie. It is the earnest hope of the large majority of officers that the day will speedily come when regimental posts will be the rule and not the exception. The comfort of officers and men will be increased, a greater proficiency in drill will be obtained, better discipline will prevail, because a healthy regimental spirit will be created, columns of troops for field service can be more speedily organized, and, there being fewer posts to care for (and those generally located in favorable situations for defense), a larger proportion of the fighting men can be sent into the field.

These are only a few of the many reasons why this policy should be carried out.

During the last fifteen years or more much has been said and written in relation to the number of desertions from the Army. Methods have been recommended and adopted to the end of putting a stop to desertion, yet it goes on without any apparent abatement. Numerous reasons have been given attempting to account for desertion; length of the enlistment, insufficiency of the ration, poorness of the clothing, hard labor, inadequacy of the pay, ill treatment, &c., have been advanced as causes or motives for desertion.

In my judgment, none of the reasons given above has anything to do with the real cause of desertion.

For a great many years the length of the term of enlistment was, as it is now, for five years, and with comparatively few desertions. Men who desert do so, as a general thing, during the first or second year of their term of service. It is a common thing for men to enlist for the sole purpose of getting out West at the expense of the Government, and with the intention of deserting on the first favorable opportunity. The length of the enlistment, whether it be for three or fifteen years, would make little difference to men of this kind.

The rations were never better nor the variety so large as now issued to the troops. The soldier, no matter where stationed, lives far better than the laboring class about him; and he subsists infinitely better than he ever did before he enlisted in the Army. The manner in which he is fed certainly should not be advanced, as it frequently is, as a cause for his desertion.

The clothing furnished is of the best quality. The men of the present day, in cold latitudes, have many articles issued to them for their comfort, such as buffalo overcoats, and overshoes, fur caps and mittens, &c., which were not enjoyed by the soldier of former days. The latter did not desert on account of the clothing issued him; and certainly there can be no sound reason for the soldier of to-day doing so. He is now better and more comfortably clad than our soldiers ever have been, and, I think, more so than the soldiers of any other nation.

Hard labor is frequently advanced as a cause for desertion. The plea is that "men do not enlist to work." No doubt this is the impression of many who enlist, as it is the almost universal impression that a sol-

dier's life is one of leisure and ease, with little or nothing to do. Let those who think this enlist once, and they will very soon realize their mistake. Men do enlist for all kinds of military duty and for all work incident to the service, be it the building of quarters, stables, or store-houses, making roads, driving team, &c. They are properly and legally detailed for work of this kind, which is as much a soldier's duty as are his drills or his instruction in the use of the saber or the musket. The soldier of the present day has nowhere near the amount of labor put upon him that the soldier of former days had, who was required to do all the work about the post, even to the putting up of permanent buildings, running saw-mills, burning lime, making brick, quarrying stone, chopping and hauling fire-wood and saw-logs, cutting and putting up hay, &c., which are now done, as a rule, by civilian labor or by contract.

I will state here that I am of the opinion that whenever a man is detailed on extra duty (no matter the nature of the duty), he should receive extra-duty pay; and that a portion of this pay, say one-fifth, should be retained and form a fund to be disbursed by a council of non-commissioned officers of the company, as they may deem fit, for the benefit or amusement of the men of the company. It is upon these men that the extra garrison work, guard duty, &c., fall, in consequence of the detail of their comrades for extra duty. This deduction from the extra-duty pay would be an act of justice to the men of the company, and no injustice to the extra-duty men, as it is well known that garrison duty is at all times harder work than extra duty possibly can be.

The statement that men desert in consequence of the great amount of work put upon them, I am satisfied, is a mistake. It is a noted fact that men while on extra duty rarely ever desert. As a rule, soldiers who are kept well occupied are cheerful and contented; whereas those not so employed, that have much leisure time on their hands, are dissatisfied, discontented, and constantly in trouble, and are the men who give "hard labor" as an excuse for desertion and other misdeeds. Rainy or stormy weather, preventing out-of-door labor and drills, are the days on which soldiers get into most of their trouble; many of them drink simply because they are not otherwise occupied; liquor being the main cause of trouble in the Army.

Men do not desert on account of poor pay, or at least should not, as our soldiers (with the exception of the non-commissioned officers) are very well paid. They know, on enlisting, precisely the amount per month they are to receive. They are much better paid now than formerly, and are, in fact, paid better wages, all things considered, than are the laboring men throughout the country. The soldier pays no house rent, is furnished with fuel, is supplied with good and abundant rations, and, in addition to his pay proper, he receives the money value for his allowance of clothing not drawn in kind; and during an enlistment, with ordinary care and prudence, this clothing money amounts to quite a sum.

In case of sickness, the soldier is carefully attended by skillful physicians and attendants, in good and comfortable hospitals, and provided with every necessary, free of charge. No matter what the duration of the soldier's illness may be, there is no deduction of pay in consequence of loss of time.

A great difference exists in favor of the soldier, when compared with the civilian laborer. The latter out of his wages must pay house rent, purchase fuel, feed and clothe himself, and, in case of sickness, must pay his doctor's bill, and suffer a loss of wages for the time he is inca-

pacitated for work. The civilian laborer sustains a loss of wages for all stormy days, holidays, &c., whereas the soldier receives his pay rain or shine, Sundays, holidays, on pass, or on furlough. All things considered, the soldier is, without a doubt, the better paid of the two. If so inclined, a soldier who does not use tobacco can lay up every cent of his pay; and in a majority of the companies in the service there are men who do this. He has, moreover, the Treasury of the United States for a savings bank, which pays him 4 per cent. interest on his deposits, with no chance of a bank failure. A private soldier can, at the end of his enlistment of five years, have more money in hand than can any civilian laborer or mechanic for the same period of time.

Ill or abusive treatment is also given as a cause for desertion. This cannot be the case, as our soldiers are carefully and well protected in this respect. The Regulations for the Army state that: "Superiors of every grade are forbidden to injure those under them by tyrannical or capricious conduct, or by abusive language"; and that: "Punishment shall be strictly conformable to military law." A soldier who feels himself wronged by an officer or a non-commissioned officer knows that he has a right to complain to his commanding officer, who must give him a hearing. Should this officer fail to give the case proper attention, the soldier can carry his grievance to higher authority, to the department or division commander, or, if necessary, to the General-in-Chief or Secretary of War. Inspectors, while at military posts, publicly inform the troops that opportunity will be given any soldier to lay before them any well-grounded complaint, without any of his officers being present. It is made the duty of inspectors to thoroughly investigate all such complaints and to report on the same, and they do so.

Without a doubt, there are isolated instances in which officers and non-commissioned officers indulge in abusive language, and even ill-treat soldiers. In most cases of this kind the officer himself is punished for his arbitrary and illegal acts. A good and orderly soldier is never ill-treated. There are men in the ranks of a disagreeable, ugly, and mutinous disposition, who are constantly fermenting strife and disorder, and are troublesome characters to manage or to have anything to do with. The non-commissioned officers are necessarily thrown closely in contact with these men on and off duty, and frequently have their patience taxed by vexatious conduct; and that they should occasionally overstep the bounds of propriety by taking the law into their own hands is to be expected, situated as they are. A great majority of the complaints of ill-treatment comes from the insubordinate and mutinous class, who provoke and bring upon themselves the ill-treatment they receive.

I hold that the soldiers of our Army have not one good or justifiable cause for desertion.

The true reason, in my judgment, for the large number of desertions, is that no adequate punishment is awarded for this heinous offense; about the worst laid down in the Articles of War, article 47, says:

Any soldier who, having been duly enlisted in the service of the United States, deserts the same, shall, in time of war, suffer death, or such other punishment as a court-martial may direct; and in time of peace, any punishment, excepting death, which a court-martial may direct.

During the war the death sentence was virtually abrogated. This was done no doubt with the most charitable and kindest of motives, but it was done at the cost of the well-being and discipline of the Army. Had a dozen men been shot, at the beginning of the war, for the crime of desertion, it would have deterred thousands from deserting who did

so with impunity, knowing that if caught their punishment would amount to little or nothing. Had the men who deserted from the Army during the war been kept in the ranks, many of our defeats would have been successes, and hundreds of valuable lives would have been saved to the country.

Too much leniency and charity have been shown this class of offenders; the better they are treated the worse they behave; they are necessarily a dissipated, discontented, bad, and insubordinate set, and very difficult to deal with.

There is no means of keeping this class of characters out of the service; if once discharged by court-martial, they again enlist under an assumed name, are soon again court-martialed, and this thing is repeated over and over again. Section 1118 of the Revised Statutes says:

No deserter from the military service of the United States and no person who has been convicted of any criminal offense shall be enlisted or mustered into the military service.

During the past few years a large number of men have been discharged from the service, having "enlisted under false pretenses," that is, who had been once dishonorably discharged from the Army for desertion, by court-martial, and became thereby ineligible for enlistment. Being detected or becoming dissatisfied, they make it known that they had previously been dishonorably discharged for desertion, and they are (as they must be) discharged by order. The giving a sentence that would preclude all chances of a man's getting back into the Army who had been once dishonorably discharged would be a move in the right direction, and one which the welfare of the service greatly demands. These men are bad material, do no duty, are constantly in the guard-house, and the duty they should perform is thrown upon the good men of the service.

The establishment of the military prison was, without a doubt, well intended, and it was thought would put an end to desertion, in a great measure. Such has not turned out to be the case, as desertion, since the establishment of the prison, is as great, if not greater than it was before. Instead of stopping desertion, as was intended, it has apparently increased it. As a prison, in completeness, neatness, and discipline, it has not an equal in this country, or possibly not in any other country. As a preventive to desertion, it has not proved a success.

Men who dislike military duties desert; preferring, if caught, to serve out a term in the military prison to doing so in the Army. Article of War 48 says:

Every soldier who deserts the service of the United States, shall be liable to serve for such period as shall, with the time he may have served previous to his desertion, amount to the full term of his enlistment, and such soldier shall be tried by a court-martial and punished, although the term of his enlistment may have elapsed previous to his being apprehended and tried.

The sentence usually given or approved for soldiers sent to the military prison is for a less term than they would have had to serve had they not deserted. For good conduct while in the prison they get a rebate of five days for each month—a reward not extended to the men of the Army who serve out faithfully and well their enlistment. By getting into the military prison they get out of the hands of the Government long before the men who enlisted about the same time with them. Company duty is more arduous than prison work; the convicts get just exercise enough to insure them good appetites. They have a most excellent table; good, comfortable beds; fine hot and cold water baths; good library and reading-room; and are well and tenderly attended by skill-

ful physicians and attendants when sick. Having no guard duty to perform, they enjoy their comfortable beds every night. The only thing to them disagreeable or irksome in this prison life is the confinement and restraint to which they must submit. Could they get out for an occasional spree, I do not believe they could be driven away from the prison.

There is a saying among the enlisted men at Fort Leavenworth that "if a soldier wishes to be comfortable and well cared for, he must become an inmate of either the military prison or the national cemetery." It has been stated, and no doubt with truth, that letters have been sent by convicts to men serving with their companies, advising them to desert or to commit some offense that would send them to the prison; that they would have a much easier time, with less work, more comforts, and would get out of service months if not years sooner than they otherwise would.

All disagreeable and dirty fatigue work, of which there is a great deal at all military posts, should be performed by deserters and other malefactors (prisoners in the guard-house), and thus relieve the other soldiers of the garrison from this drudgery. As it works now, this class of prisoners is sent to the comfortable military prison, and the dirty and disagreeable work is made to fall upon the orderly, faithful, and good soldiers, who, in addition, have all the other garrison duties to perform.

It appears to me that it would be well could we go back a step or two to the old method for the punishment of deserters; that is, to cause these malefactors to serve out their entire enlistment in charge of the post guard, at hard labor, with ball and chain (paragraph 896, Army Regulations), doing all the dirty work and drudgery of the post, with the comforts of a guard-house as their only lot. As a constant example to the other men of the garrison it would be invaluable; for, if any contemplated desertion, they would think twice before committing the act.

For the welfare of the service, for good discipline, and to exclude worthless characters from the Army who have been once dishonorably discharged by court-martial for desertion, habitual drunkenness, utter worthlessness, and for theft, Article of War 98 should be modified, by striking therefrom the words "marking or tattooing on the body." Indelibly "marking or tattooing" is not, as the public press is pleased to term it, "branding." Branding is marking with a hot iron, whereas tattooing is indelibly marking with india ink, and is attended with neither pain nor cruelty to the man.

Nearly all our sailors and many of our civilians carry marks in india ink on the body; and all that is here proposed to have done is to put on the bodies of these malefactors who have been once legally disqualified for the service, a mark in india ink, that will prevent their ever getting back into the Army. These marks would not interfere in any way with a man's obtaining work. Men are stripped and examined, I think, for two things only—for enlistment and for life insurance. The mark would prevent these worthless characters from getting back into service; a protection much needed, and one to which the service is justly entitled, and without which it will be in vain to attempt to have a well-disciplined and efficient army. In the event of any of these discharged men wishing to insure their lives, such marks could hardly stand in the way of their doing so.

Men who are tried and dishonorably discharged from the service by sentence of a court-martial for habitual drunkenness, utter worthlessness, or theft, under the charge of "conduct to the prejudice of good

order and military discipline," should be in some way indelibly marked, as well as deserters, to prevent their again entering the service. This class of men cannot well live out of the Army, and will, on the first favorable opportunity, re-enlist under an assumed name, and will in a short time become a burden and a nuisance to the service. Let these worthless men know that they cannot get back into service after once being discharged, and they will be more careful how they get out of the Army.

Desertion from the Army is large on paper; whereas, in reality, the actual number of men deserting is not so great as would appear, as the same man, under various aliases, enlists and deserts over and over again.

Paragraph 214, Army Regulations, says: "A reward of thirty dollars will be paid for the apprehension and delivery of a deserter to an officer of the Army at the most convenient post or recruiting station. This reward will include the remuneration for all expenses incurred in apprehending, securing, and delivering the deserter." The reward of thirty dollars is too small. After the expenses for apprehension, &c., are deducted, little or nothing remains to the person who brings in the deserter. The reward should be increased from thirty dollars to one hundred dollars; this amount would insure the apprehension and return of almost every man who deserts, and this sum would pay. There are plenty of men ready to bring in deserters whenever they can see money in the transaction.

With a larger reward for the apprehension of a deserter, and with a sentence to serve out his entire term at hard labor, wearing a ball and chain, in charge of the post guard, and, finally, to be indelibly marked to insure his not getting back into the service, desertion would, in a great degree, be remedied. I think were a deserter sentenced to be indelibly marked, and to be turned out of the service at once without any further punishment, it would be far better for the Army than to give him various punishments lasting for years, military prison included, and then to turn him adrift without being so marked.

During the war and since that time, legislation has been in the direction of kindness and clemency towards the malefactors of the Army; no doubt done with the purest and best of motives, but, at the same time, this leniency has had a demoralizing and damaging effect on the discipline and the *morale* of the service.

Much attention and careful thought have apparently been bestowed upon this subject by the officers of this department; and from various views and remarks thereon, I submit the following:

General Davis writes:

The number of desertions in the Army continues to be large, too large; which suggests continued investigation of the causes therefor, and the adoption of provisions to check this evil. Of the 456 prisoners received at the military prison at Fort Leavenworth the last fiscal year ending June 30, 1884, 424, or .920 per cent., were deserters. * * *. It appears that the great majority of desertions occur in the first year of the first enlistment.

The great benefit to the service which would result, universally admitted in the Army, by having recruits thoroughly instructed at depots before joining their companies, heretofore recommended, is deemed of sufficient importance to justify again inviting attention to this subject, and renewing the recommendation. The numerical effective strength of our Army is now too small for the needs of the country.

It is recommended that authority of law be obtained authorizing the enlistment of men, in excess of the present Army organization, sufficient to fill vacancies in the rank and file with well-instructed and disciplined soldiers from said depots of instruction, and that the pay of non-commissioned officers be increased.

It is believed this method of recruiting the Army, the enlistment of cooks, bakers, and laundrymen, before mentioned, and raising the standard qualification of non-commissioned officers with increased pay, would to a great extent stop desertions, make the Army more efficient, and prove in the end of decided economy to the General Government.

Lientenant-Colonel Lazelle submits the following views and suggestions bearing upon the same matter :

While existing requirements exact an almost perfect physical development in the applicant for enlistment, his mental capacity and moral tone are often of a low order.

That this is neither the intention nor the spirit of the Regulations of the Army is, in unmistakable language, carefully laid down. While it is more difficult to determine the morally degraded or detect those of drunken or pernicious habits, yet, by the careful and intelligent supervision of recruiting officers, much can be done to prevent the vile and depraved from getting into the service. In our ordinary industries applicants for place are required to furnish evidence of good character, of faithfulness, sobriety, and capacity before employment is given. Why should the military service ask less, before contracting with men for five years, during which it carefully fulfills its part of the agreement? Yet nothing of this sort is done.

There are many recruits received who can neither read nor write, not unfrequently can barely understand the simplest English. Post schools and libraries go for nothing with such men; and they cannot be mentally much improved by training and discipline, for they are presumptively from the lowest grade of material. While more stringent measures should be devised at the recruiting office to prevent bad men from enlisting, recruits assembled at depots should be *retained there* under constant discipline and instruction *longer than now*—long enough, six months, if necessary—to determine upon the worthless and those of bad habits, and to summarily discharge them, or, by sentence of court, with loss of everything. This preliminary weeding out would be cheaper than transporting such elements to distant garrisons, there to go through the same process, to say nothing of the demoralization which a few such men in every company bring about. They pull down men of weak character, fill with disgust and hatred of the service good men obliged to associate with them in the intimate contact of the squad-room and mess-hall; and they fill the guard-house, and in the end desert. * * * I respectfully submit the proposition as worthy of serious consideration, of the enlistment of men with the legal understanding that they shall receive no payments whatever until the expiration of their term of enlistment. If the experiment was thought advisable, there would be little difficulty in the necessary legislation directing that recruits who *wished* could so enlist. It need not be obligatory or extend beyond those who voluntarily accepted the condition. A double advantage would result from this measure—an advantage to the soldier and an advantage to the Government. Assuming that the supply departments be extended to keeping on hand a few more articles, so that the actual necessities of the soldier may be met (as is done at West Point with cadets) when he was discharged, he would have at his disposal from five to eight hundred dollars, resulting from obligatory frugality during his term of enlistment; and with this start he would feel greatly encouraged to continue in habits of industry, saving, and sobriety. If, as sometimes happens, he had dependents upon his pay, the paymaster could be authorized to remit to them given sums as might be necessary. The inclination of the soldier to spend money foolishly, simply because he has it and has no special use for it, would be removed; and sobriety would be, to a very great extent, a necessity—the soldier's clothing and effects being, of course, marked and rigidly looked after by the company commander, as now provided for in orders, that nothing be bartered by him for liquor or other indulgences.

The advantages to the service would be in the hold at once established on the enlisted man against his desertion by the retention of his pay, in the elimination, to a considerable extent, of pay-day disorders, now bi-monthly occurrences to some extent in every garrison, as unauthorized absences, drunkenness, fighting, &c. It is a well known matter of experience that by far the great majority of disorders and serious military offenses, as well as minor violations, originate in drunkenness; and that these continue with less and less frequency until the men have spent their money, when the condition of the garrison again becomes normal.

In the mean time, however, the guard-house is full, discipline and instruction have greatly suffered, and courts-martial follow with punishments, making prisoners of the men for various periods, and removing them from a soldier's duty; always resulting in more or less demoralization to the offenders individually as well as to the command.

It will perhaps be urged that few men will accept such conditions of enlistment, except the very worthy, who would not give trouble without this check upon them. This is an error. Many a man enlists in the hope of reform from past misconduct; many a one discouraged and out of employment with the hope that he may yet by this means get another start; many another to escape evil companions and temptations, others destitute, who have never had in all their lives anything but mere subsistence and poor pay, would gladly embrace conditions which promise them so much under good conduct. Many of these classes are morally and intellectually feeble, and when paid every two months, as now, are too weak to resist solicitations, and they frolic

away their money; whereas, if none was paid them, they would be glad of the preventative interposed. Men in other vocations and ventures readily accept conditions that payment is to be made at long periods or at the termination of their services. And it is an assumption fairly within expectation that a very large proportion of those presenting themselves for enlistment would, if allowed, bind themselves to faithful service, to be paid at its expiration.

Major Sumner, Department of Texas, also writes:

The number of desertions during the past year has been about the same as in preceding year. The causes that induce desertion in our Army are as varied as those that lead to enlistment, and the treatment of the men, either in companies or at posts, has (with rare exceptions) no bearing on the case. In the Army, as now administered, the enlisted man has seldom any just cause for complaint.

Lieutenant-Colonel Mason furnishes the following table, showing the number of desertions in the Department of the Platte, during the past year, and the causes therefor, as found by boards of survey convened for that purpose:

Causes of desertion.	Fifth Cavalry.	Fifth Artillery, Battery D.	Fourth Infantry.	Sixth Infantry.	Seventh Infantry.	Ninth Infantry.	Fourteenth Infantry.	Twenty-first Infantry.	Total.
No causes found	54	14	37	35	35	34	18	5	247
Fear of recognition as deserters from other regiments or as convicts	2			2	1	7	1		13
Fear of punishment for theft or other crimes	2		3		1		2		16
Being in debt	3	1	1				4		12
Enlisted to get transportation west	6						1	1	12
Dissatisfied with service on account of labor, &c	22	7	4	11	10	6	10	1	71
Coerced by comrades or prisoners under charge						1	2	1	4
Heavy drinking, worthlessness, bad character, &c	11	1	3	6	1	2	5	1	32
Unpopular with comrades	1			1				1	3
To obtain higher wages at their trades	4			6	2	1	1		13
Mental derangement						1		1	2
Holding money intrusted	1			1					2
Homesickness or to join wife	2		1			2		1	7
Married a lewd woman						1			1
On furlough or pass			3		2				6
Enlisted for winter	1			3			4		8
To join a woman or a circus				2					2
Non-appreciation of oath or indifference thereto		5	2			4			11
To remain with brother to be discharged				1					1
Due to receipt of a legacy				1					1
Due to discharge of wife from position as servant				1					1
Total	106	28	56	68	53	66	45	12	489

Inspector-General Davis presents the following views and recommendations in regard to the enlistment of company cooks, &c.:

The subject of company cooks and laundresses is, I think, of sufficient importance, as affecting the good of the Army, to demand more than a passing notice.

It has been reported that the company ration was improperly cooked, and wastefully so. This creates discontent with the men and causes sickness. Notably was this the case in the field in the late war. Wholesome food, health, and efficiency, are essential in an army—their relative dependency being in the inverse order given—and wholesome food depends upon good cooking as well as upon the good quality of the articles supplied; and, to have this, there must be good (professional) cooks. Have we such generally? The company cook is indispensable and is really a non-combatant; hence he should be excluded from the organized fighting strength of the company.

It is recommended that efforts be made to have Congress pass a law authorizing the enlistment of men as company (professional) cooks, two to each company, to be

paid a price to secure them, and not to be armed and equipped as soldiers, nor included in the military organization as combatants; also, for the enlistment of a prescribed number of men as post bakers, to insure good bread, to be non-combatants, as in the case of company cooks; also, that there be enlisted in each company one man as a laundryman, to be reported the same as cooks and bakers.

This, in our small army, would only be giving to its effective organization what it is believed Congress intended it should have, but which is now necessarily weakened by this number of men.

In connection with the hygiene of the Army, Captain Hughes, Department of Dakota, presents these views:

I have paid a good deal of attention to the sanitary condition of latrines for some years, and have made careful note of the results of the different systems pursued at different posts. One post will have earth closets; another will have pits or vaults in which different chemical disinfectants are employed; and a third will have pits or vaults in which dry earth is applied. The custom now prevailing is to use these pits until they fill up, and then dig a new pit and move the superstructure to it. The earth-closet system will answer very well at small posts where careful attention can be given to all the details of its management; but my observation leads me to conclude that this system does not work well in large garrisons. The pit system, as now employed, does not meet sanitary requirements, for in a few years the whole surface of the ground about the rear of the barracks becomes poisoned, and fevers and other diseases are generated. I respectfully submit that all large posts promising a reasonable longevity should have—as a sanitary measure, if not for convenience—a complete system of sewerage. At posts where this is impracticable, I submit for consideration that all pits or vaults of company latrines should be properly walled up; that the medical officers at posts should enforce a careful, dry-earth disinfectant system; and when these vaults require it, the Quartermaster's Department should grant the money to employ scavengers to empty and clean them.

I think the Quartermaster's Department should grant an allowance of fuel and heating stoves to enable fires to be kept up during the winter in rifle galleries and company latrines.

The manner that forage is sometimes drawn by officers of the Army has been called to my notice by officers of this department.

Forage in kind may, under the law, be furnished to the officers of the Army by the Quartermaster's Department, only for horses owned and actually kept by such officers in the performance of their official military duties, &c.

The law is plain, and the certificate on the requisition for forage, that is signed by the officer, is clear and strong, with no excuse for misunderstanding its meaning. It is as follows:

I certify that * * * the private animals for which forage is required are actually owned and kept by myself * * * in the performance of official military duties. &c.

It would seem that the above is forcible and clear enough to prevent the drawing of forage by any officer when he does not own horses at the station where he is serving. If the law and the certificate are not of sufficient force to prevent these gross irregularities, then additional checks should be prescribed, to render such doings impossible. It is humiliating that such precautions should be required.

Quartermasters cannot very well make objection or go behind an officer's certificate, nor would they or inspecting officers be justified in doing so, unless special authority was given them for such action. I think, under the circumstances, that it would be well to require all officers drawing forage to give the quartermaster, in addition to the certificate on the requisition, some good and convincing proof that they do own the horses at the station, for which they are drawing forage, and the quartermaster should be thoroughly satisfied on this point before making the issue.

Dissatisfaction prevails in certain quarters in regard to existing laws governing the purchase of fuel by officers. The operation of these laws in the Department of Dakota is thus illustrated by Capt. R. P. Hughes:

The law requiring officers to purchase their own fuel is still a bone over which deep growls are heard. There is no doubt that there is much good ground for discontent. Aside from the irregularity with which this law applies in practice throughout the Army generally, it works very unequally at contiguous posts. We will take, for illustration, the two posts of Assiniboine and Maginnis (and note that these posts are garrisoned by the same regiments). A first lieutenant, with a family consisting of a wife and two children, at the first-named post, informed me that it required five cords of wood per month to heat his house during the winter. His allowance per month, in round numbers, is two and one-half cords. He can buy the two and a half cords at \$3 per cord, the remaining two and a half cords he can buy at contract price, which is \$12.93 per cord, or possibly by scurrying around, and by hook and by crook, he may get it elsewhere a few cents per cord cheaper. But the contract price, where there is a good deal of competition, is a good standard to go by. Now, being accidentally stationed at Assiniboine, this lieutenant pays \$39.82 per month for fuel, whereas, had the accidents of the service carried him to Fort Maginnis, where a portion of his regiment is now serving, the figures would be thus, the wood contract being \$4.97:

2½ cords at \$3 per cord	\$7 50
2½ cords at \$4.97 per cord	12 42
<hr/>	
Total for fuel per month	19 92

thus making a monthly difference of almost \$20 per month in his necessary expenses for the winter months. But let us go a little further, and grant that the accidents of the service carried the Assiniboine lieutenant to Fort Lincoln, Dak., where the contract price for wood is \$2.49 per cord. The difference in his necessary monthly expenses during the winter would then be about \$26 per month. In fact, as the matter now stands, an officer's expenses are in too great a degree dependent upon the station to which the accidents of the service carry him, and upon the margin of profit calculated and arranged for by fuel contractors. Section 8 of the act of Congress, published in General Orders No. 37, series 1878, from Headquarters of the Army, distinctly says that:

"Allowance of, or commutation for, fuel to commissioned officers is hereby prohibited; but fuel may be furnished to the officers of the Army by the Quartermaster's Department, for the actual use of such officers only, at the rate of \$3 per cord for standard oak wood." Notwithstanding the fact that "allowance of * * * fuel * * * is prohibited," General Orders No. 78, series 1878, from Headquarters of the Army, fixes an "allowance" of fuel, and limits the amount to be sold at the rate fixed by law, at the pre-existing allowance. As shown by the foregoing figures, this order works a great hardship upon those officers who are, by accidents and requirements, stationed at posts located in a section of country where fuel is scarce and difficult to obtain. Equity would seem to demand some action by Congress, or a reconsideration of the law, which would in some measure alleviate this hardship.

The reports of the inspection of the accounts of disbursing officers of the Army, required by the act of Congress approved April 20, 1874, (Supplement to Revised Statutes, vol. 1, page 16), have been made, and are herewith submitted for transmittal to Congress, as required by section 2 of said act.

These accounts cover disbursements of more than twenty millions of dollars, and show, so far as discovered, that the public funds have been properly disbursed and accounted for. The system of accountability and the check upon disbursing officers seem to be all that is required.

In this connection, I invite special notice to the following remarks of General Davis on a subject of the highest importance to officers of the Army intrusted with the disbursement of public money. The matured experience of General Davis gives much weight to the suggestions here presented, which should, in my opinion, receive the attention of higher authority:

The necessity, frequently, of disbursing officers, especially with Engineer officers, of making payments for labor, &c., upon the works of river and harbor improvements under their charge, through civilian assistants, where the public funds in the hands of

the latter amount sometimes to fourteen thousand dollars before vouchers for the same can be rendered, entails upon said officer a risk from loss, through robbery or other accidents, for which it seems they have no adequate protection under existing laws, regulations and orders. In many cases, the money cannot be sent by express nor the payments made by checks, nor can the officers make their payments in person. It is suggested that some law or regulation might be made for their better protection, and which would enable them, in case of unavoidable loss of funds, in the proper discharge of their official duties, to obtain, more readily than now, relief from Congress.

The necessity for revising the present Infantry Tactics is well set forth in the following extract from the annual report of Lieut. Col. H. M. Lazelle, Division of the Pacific:

I am safe in saying that all line officers of the Army who have kept abreast in information with the developments in modern fire-arms, their resources and necessities, and the new conditions imposed upon tactics by their use, regard the present system of instruction enjoined by Infantry Tactics as inadequate and unsuitable to the service, and deficient in methods and movements provided for by most European nations. I believe that this distrust of our system is general among infantry officers and artillery officers of foot batteries; and that modifications looking to the harmonizing of tactical movements with the new recognized conditions imposed by modern fire-arms are very essential to maintain the interest of officers in their own tactical studies, and a proper zeal in the instruction of their men. At present there exists a want of confidence as to the adaptability of the present system to the modern battle-field; a feeling that the movements belong to an obsolete system of fire-arms; and a corresponding listlessness prevails towards instruction. An instruction of troops is naturally pertinent subject of this report, I beg to take the liberty of further suggesting in what way useful modifications of tactics should be effected. No one man can write a satisfactory tactics, and to no one should it be delegated. There should be neither wholesale adoption nor abandonment of any system. A competent board should first indicate in what directions, and how far, modifications are essential; and how much of an existing system is obsolete or useless, and how much should be eliminated. This method has been adopted in England and in Italy, with highly gratifying results. It is now nearly twenty years since the present system of tactics was adopted, and though never tested by war, it is well known, in its very elements, to be defective. Besides, many changes have been imposed by orders and rulings, rendering a revision of importance.

And Lieut. Col. E. C. Mason, Department of the Platte:

I wish to invite attention to the necessity of revising the Tactics, especially of the Infantry arm of the service. The number of decisions already made and the greater number of unsettled points (for there is scarcely a movement about which there is not discussion), make it very desirable that a new edition, revised and corrected, should be issued. I respectfully suggest that this work be done by a carefully selected board of officers accustomed to the daily use of the Tactics. This board might also be required to consider the question of uniform and equipments.

The following extract from the annual report of Colonel Lazelle, of the Division of the Pacific, showing the necessity for professional study by officers of the Army, I deem worthy of consideration:

The want of professional study by officers is conspicuous everywhere, not only at the posts inspected by me, but elsewhere. It is well known that the abundant leisure at our military posts is the drag of existence there. It is useless to make studies obligatory, or to order proficiency; study cannot be enforced nor advancement in even tactical studies made imperative. Recitations in tactics and regulations may be ordered and held, but the subject may end there. At present, instruction is required of officers, and G. O. No. 5, A. G. O., 1866, requires inspecting officers to report upon the capacity of officers for field service. Instruction in artillery arm is obligatory; a course is prescribed. But it is a notorious fact that the spirit of the regulations is seldom carried out at our military posts generally, concerning the proper schools of instruction of officers and non-commissioned officers. The only absolute spur to professional study and fitness in the line of the Army, is *examination for promotion*.

In all other occupations, and now in the medical and engineer corps of our service, preferment depends upon tested fitness and capacity; in our civil service it is the same. In the line of the Army, however, notwithstanding the necessity for highest knowledge, and the growth and complexity of the duties of the line officer, promotion goes on without variation, by seniority, and his technical education and fitness continue presumptive. If rapid evolution of ideas, new facts, and advanced discoveries render constant application necessary in the medical and engineer corps, certainly

corresponding conditions obtain in the line of the Army; and in view of the changes and continual development of military thought, do they demand the proficiency of its officers. But however important professional acquirement and fitness may be, it will never be secured until it is provided by law that examinations in all grades of the line shall precede promotion. This will stimulate effort to the highest degree, and, instead of the general indifference to professional study, there would be effected a wholesome change most beneficial to the service.

Paragraph 167, Army Regulations, states that "captains, although eligible for appointment as aides-de-camp and liable to the temporary details of service, as for courts-martial, military boards, &c., shall not, except for urgent reasons, be detailed upon duties separating them from their companies for any considerable time." This is a most excellent regulation, and the good of the service demands that it should be rigidly enforced. Captains should not be detailed away from their companies on any kind of duty when it can possibly be avoided.

For the good of the service, I think captains should not be detailed on the recruiting service. The senior first lieutenants should be selected for this duty, in order that they may have a tour on the recruiting service before their promotion to a captaincy, and, after this promotion, should be ineligible for the detail.

A company deprived of the services of its captain for any considerable time, is regarded as an orphan company, one not having that care and supervision that it should have. The lieutenant who commands the company in the absence of the captain may be a most excellent officer, even better than the captain; but he cannot give that attention and care or take the same interest in the company that its captain could, as the lieutenant is subject to detail for other duties, to which the captain is not liable, and which would constantly separate him from the proper supervision of the company.

Companies in service are known by the names of their captains.

By the Army Regulations, "regimental returns must be made in the name of the colonel, and those of the company in the name of the captain, whether those officers be present or absent." Also, "Companies will be designated on the muster and muster and pay rolls by the names of their captains, whether present or absent." The names of the colonel and the captain are placed at the head of these returns, for the reason that they are fixtures or belong permanently to these commands.

A colonel bears the same relation to his regiment that a captain does to his company, and I do not think he should be selected for any duty that would take him away from his regiment for any considerable time. The colonel, captains, and first sergeants make the regiment; they give it its character, standing, and discipline, more so than all the other officers and non-commissioned officers combined, and during the time they hold these grades of rank they should not be separated from their commands, except for urgent reasons, and then for as short a time as possible.

In many cases, captains of companies have been detailed for certain duties, when lieutenant-colonels or majors would have been more available and their selection more appropriate for the duty required. Were first sergeants to be selected for duties away from their companies for any length of time, the company commanders would protest against such details, as being detrimental to the discipline and welfare of their companies. The captain's presence should be of more value and importance to the company than that of any other person.

Frauds on the Government, in the duplication of pay accounts, have been perpetrated by a few officers of the Army during the past year. A sufficient number, however, of these misdemeanors has been indulged

in to create much unfavorable comment, to the great detriment of the service.

Officers who, through their dissipation and recklessness in living, have been guilty of these dishonest acts, have been brought to trial, and, in most cases, convicted and dismissed from the Army. A method is much needed to render this fraud of duplicating pay accounts an impossibility. It would be far better were the officers of the Army put to much inconvenience than that a fraud of this nature could be possible.

Imposition on the Government could be prevented by giving to each paymaster a list of the officers he is to pay, and prohibiting his cashing the accounts of any other officer. In the event of troops being moved from one department to another, the paymaster upon whom the payment of the troops devolved could be directed to pay the officers of the command, the paymaster who formerly paid them being notified of the change; and this latter officer should furnish the other paymaster the dates to which the officers were last paid. Officers on detached service, on sick leave, or on leave of absence, should make application through the proper channels, giving their probable location and asking that a paymaster be designated to honor their accounts when due. This would entail very little trouble or labor on any one; the payer, as well as the payee, could be held accountable for any duplication of accounts; and paymasters would be protected against any possibility of paying accounts already cashed by other officers of the department.

Paragraph 2380, Army Regulations, states that "no officer shall issue, hypothecate, or transfer his pay account not actually due at the time." I hold it the duty of every officer of the Army to report all violations of the above regulation that may come to his knowledge, and to report it to authorities whose duty it would be to see that proper action was taken in the case; and I hold that this rule would be a good and highly proper one in every case of gross violation of the Army Regulations by an officer, wherein his acts or conduct is liable to bring the service into disrepute or disgrace.

For reasons that have been fully set forth in previous annual reports from this office, I renew my recommendation that the Inspector-General's Department be placed on an equal footing with other staff departments as regards clerical assistance, and request that some prompt action be taken to afford the relief so urgently demanded.

Respectfully submitted.

D. B. SACKET,
Brigadier and Inspector General.

The ADJUTANT-GENERAL, UNITED STATES ARMY.

REPORT OF MAJOR-GENERAL HANCOCK.

HEADQUARTERS DIVISION OF THE ATLANTIC,
Governor's Island, New York, October 13, 1884.

SIR: In obedience to the instructions contained in your letter dated September 23, 1884, I have the honor to submit for the information of the Lieutenant-General Commanding the Army, the following report of operations within the Division of the Atlantic during the past year:

The geographical boundaries of the division are the same as at the date of my last annual report (October 8, 1883). At that date the division was composed of two geographical departments—the East and South—the headquarters of the former being at Governor's Island, New York, and of the latter at Newport Barracks, Kentucky. The Department of the East was then (as it is now) under my immediate command, and so was the Department of the South, for it may be remembered that upon the retirement of Col. Henry J. Hunt, Fifth United States Artillery, September 14, 1883, the latter department was placed temporarily under my immediate command by direction of the Secretary of War. On the 1st of November, 1883, however, under the provisions of General Orders 71, Headquarters of the Army, A. G. O., of October 13, 1883, the Department of the South was merged in the Department of the East under my command. I therefore, at the present date, command the Division of the Atlantic, and also the one geographical department pertaining thereto, viz, the Department of the East.

The aggregate of troops serving in the division on the 30th of September last, up to which date returns have been received, was as follows:

	Commis- sioned officers.	Enlisted men.
General officer.....	1	.....
General staff	69	92
Artillery	211	1,840
Infantry	69	816
Total.....	350	2,748

On the 30th of September, 1883, the total strength of the division was 351 commissioned officers and 2,591 enlisted men.

The movements of troops to, from, and within the division during the past year have not been numerous, and I herewith give a brief synopsis of those which have taken place.

At the date of my last report the garrisons of Washington Barracks, District of Columbia, and Fort McHenry, Maryland, were in summer camp at Gaithersburg, Md., under command of Col. R. B. Ayres, Second Artillery. The camp was discontinued October 11, and the troops rejoined their respective stations October 13, 1883. The beneficial results to the troops from this summer encampment warranted a repetition of the movement this year; so, under sanction from superior authority, steps were taken early in the summer to secure a suitable camping-ground. Gaithersburg was not found entirely suitable in some respects, so an examination was made at different points within a few days' journey of Washington and Baltimore, and at length a spot was selected in the vicinity of Fauquier White Sulphur Springs, Va., which seemed to provide the requisite military and sanitary conditions. It was, therefore, decided to estab-

lish the camp of the Second United States Artillery at that point, and accordingly the troops at Fort McHenry (with the exception of one depleted battery left as guard) marched to Washington Barracks July 2, and on the 7th of July, the whole of the troops left Washington Barracks for the camp at Fauquier White Sulphur Springs, arriving there July 12. They are still in camp, and will remain for a few weeks longer. The tour has been beneficial in many respects, drills and target practice have been pursued with vigor, and the light battery in camp has had ample facilities for a course of thorough instruction.

The garrison of Fort Barrancas, which had been placed in camp near Atlanta, Ga., at the outbreak of yellow-fever at Pensacola in the summer of 1883, and which was still in camp at the date of my last report, returned to Fort Barrancas December 12, 1883. The question of placing them in camp this summer came up early in the season, and after some correspondence with the Headquarters of the Army on the subject, the matter was left to my discretion. Accordingly, on the recommendation of the medical director of the department, taken in connection with a case of yellow-fever at Key West, I ordered the troops into camp at Atlanta, Ga., early in September last, and there they still remain. Pensacola, however, has been unusually free from yellow fever this year, and the rapid approach of winter makes it extremely probable that it may escape the scourge altogether, for this year at least. It will be prudent, however, to keep the garrison of Fort Barrancas in camp until early in December next, when, if the danger from yellow-fever is entirely past, they can be ordered back to their post.

At the request of the authorities of the State of New York, and under instructions from superior authority dated June 3, 1884, Light Battery F, Fifth Artillery (Randolph's), left its station, Fort Hamilton, New York Harbor, July 24, marched to Peekskill, N. Y., and went into the State camp at that point July 26, 1884. It remained there as a nucleus of instruction for the State batteries assembled in camp until August 3, when it started on its return march to Fort Hamilton, where it arrived August 5. This special tour of duty was beneficial to the light battery itself, and I trust to the State troops.

Under the operations of General Orders No. 41 of May 3, 1884, from the Headquarters of the Army, the Tenth United States Infantry in garrison at Forts Wayne, Brady, and Mackinac, Michigan, and Fort Porter, New York, was transferred to the Division of the Missouri early in the month of June, 1884, and was replaced at those posts by the Twenty-third United States Infantry.

Under instructions from the Lieutenant-General Commanding the Army, dated February 13, 1884, the post of Fort Ontario, New York, was re-established as a garrisoned post on the 13th of May last, and Company H, Twelfth United States Infantry (Stacey's) was sent to it from Plattsburg Barracks, New York, and now constitutes its garrison. The company was replaced at Plattsburg Barracks by Company C, Twelfth United States Infantry (Viven's), from Madison Barracks, New York.

Under instructions from the Lieutenant-General Commanding the Army, dated September 2, 1884, the post of Fort Wadsworth, New York Harbor, which had since November, 1881, been a dependency of Fort Hamilton, was re-established as one of the garrisoned posts of the division September 3, 1884. The battery (B, Fifth Artillery, Van Reed's) which had been posted at it for some time previous as a guard was assigned as its permanent garrison, and Lieut. Col. H. W. Closson, Fifth United States Artillery, was placed in command.

I may state that under authority from Washington the Twelfth Regiment of the National Guard of the State of New York went into camp there for one week in August last to receive instruction in heavy artillery. The tour, I understand, was thoroughly successful, and the officers and men of the Regular Army did everything in their power to further the object of the visit.

In my report of last year, while referring to the light batteries of artillery stationed in the division, four in all, I adverted to the necessity for new barracks at Forts Adams and Hamilton, said barracks to be adjacent to the battery stables. I am gratified that under recent authority active steps are now being taken looking to their construction. Considering the many difficulties under which they labor, the light batteries make very fair progress in their specialty, but I still think that could they all be concentrated at some suitable post, under an experienced artillery officer, they would enjoy better opportunity to become proficient than they do in their present isolated condition.

A few weeks ago I transmitted a report as to the progress, condition, &c., of the post schools in the division, submitted pursuant to the regulations on the subject, by Lieut. Col. William D. Whipple, assistant adjutant-general. There seems to be no lack of interest on the part of post commanders to further education in the Army, but there seems to be a general lack of interest on the part of those for whom the educational facilities are provided. There are under the present system, what with target practice and other matters, more calls upon the soldier's time than in former years, and when he has finished his daily routine of duty he shows but little inclination to subject himself to the restraints of the school-room. Besides the most of our garrisons furnish ample reading matter for the men and suitable places to read in, so that possibly they better their education as much in that way as by the post schools.

The annual rifle competitions of the Division of the Atlantic and the Department of the East were conducted this year, as last, at Creedmoor, N. Y. They were supervised by Capt. H. G. Litchfield, Second United States Artillery, whose ability and experience in such matters are well known. That there has been no falling off in persistent and zealous rifle practice is, I think, amply demonstrated by the statistics given in the several target circulars and orders. I invite special attention to the detailed reports, which I transmit herewith, of Captain Litchfield, Second Artillery, and of Second Lieut. S. E. Allen, Fifth Artillery, inspector of rifle practice of the Department of the East, and to my General Orders 13, of September 30 last, announcing the results of the competitions at Creedmoor. These results, I think, are very gratifying, and exhibit a high order of excellence in firing practice. Captain Litchfield, in his report, refers with pleasure to the general behavior of the competitors, and to the interest and patience which they manifested throughout the competitions and preliminary practice.

It would be desirable if the Government had its own rifle range in the division, thoroughly fitted out. I may state that the reservation at Fort Niagara, New York, seems to present all the necessary elements for such a range up to 1,500 yards. The post is accessible, and I do not think that a large expenditure would be required to fit up a range there adapted to the latest requirements of rifle practice.

While on this subject, I refer with pleasure to the fact that the team of the Division of the Atlantic, while at Creedmoor, participated in the "Hilton Trophy Match," under the auspices of the National Rifle Association, winning it by the handsome score of 1,018 points, thus "exceed-

ing the highest record heretofore made with the service rifle and cartridge by 52 points."

The method of selecting the representatives from the division for the "Army team" has been that which I deemed in consonance with the existing regulations under which division and department teams are selected, viz, to take the three marksmen making the highest "of the best two days' scores of the three fired." Some objections, however, might be presented to the system, and perhaps a better one would be to have a special competition for places on the Army team among the marksmen annually assembled to engage in the prescribed division competitions.

In concluding my remarks concerning rifle practice, I commend to attention the following extract from the report of the inspector of rifle practice:

One great objection to target practice on the part of many—*too much paper work*—would be removed if the present form of monthly report could be reduced and simplified. A report of the number of scores fired by each man at each range, with the number of men in each class, at the end of the month, would be sufficient to indicate the amount of practice and progress, while it would be the duty of the inspector of rifle practice to see that complete records were kept in the company record books.

I inclose the several reports of the chiefs of the staff corps at these headquarters, which exhibit in detail the operations of their respective departments during the year.

It will be seen from those of the assistant inspector-general of the division and the acting assistant inspector-general of the Department of East that inspection service has been thoroughly carried out. All the garrisoned posts, as well as those ungarrisoned, have been inspected, and the several special reports of inspection submitted from time to time have indicated a satisfactory condition of affairs at most of them. The discipline of the troops is good, and military instruction as a rule, is efficiently and intelligently carried out. Last year I expressed my satisfaction at the many improvements made in the clothing of the enlisted men, the barracks occupied by them, and their general surroundings. The past year has also seen some progress in this respect, and I certainly think that the present lot and prospects of the soldier are such as should obtain from him good and faithful service.

The crime of desertion, although not, I imagine, on the increase, shows no diminution. As I have but recently submitted a detailed report on the subject of desertion, there seems no necessity to enlarge upon it now.

Out of three hundred and thirty-eight cases tried by general court-martial during the year eighty-five (or about 23 per cent.) were for desertion. This, of course, does not represent the number of desertions, but only those who were captured or who surrendered. The report of the judge-advocate of the division herewith furnishes statistics on this head and other interesting data.

The report of the chief quartermaster exhibits in detail all that has been done by his department in the past year in the matter of repairs, construction, contracts, &c. The greatest economy has been exercised in this department, the posts have been kept in as good order as possible with the limited funds at our disposal. The water supply at some of the principal posts, which had been inadequate, and in some cases unhealthful, has been given attention, and great improvements made, all tending to the sanitary benefits of the posts concerned. I have already referred to the subject of new barracks for the light batteries, and the work as authorized will be pushed forward as fast as possible after the necessary preliminaries have been settled.

I again refer to the proposed establishment of a garrison at Fort Montgomery, Rouse's Point, N. Y., a strategic point of importance, and reiterate the hope expressed last year that it may not be long before the project is carried out. The proposition involves the transfer of the garrison at Plattsburg Barracks (a field officer and two companies) to Fort Montgomery, and, pending a definite settlement of the question, but little money has been laid out for repairs, &c., at Plattsburg for some time past.

The medical director reports the health of the command very good during the year. So far no cases of yellow-fever have occurred at any of the posts in the South, and there is now every reason to suppose that danger from this source for this year is over, although there will be no relaxation in the usual precautions. The medical director has but recently inspected the hospitals at several of the posts and found them generally in good condition. He reports favorably of two important essentials, viz, the food of the troops and its proper cooking.

The reports of the chief commissary of subsistence and the chief paymaster are satisfactory as to their departments.

I have thus given a brief synopsis of the operations since September 1, 1883. The settled character of the posts and troops in the Division of the Atlantic leaves but little to be said with regard to them which has not already been communicated in the various special reports forwarded from time to time.

The commanding and company officers as a rule have been zealous and careful of the welfare of the enlisted men and public property placed under their charge, discipline has been well maintained, and military instruction has been energetically pursued so far as the limited number of troops at many of the posts would permit.

I have to commend the officers of my general and personal staff for faithful and efficient performance of duty.

Pursuant to instructions, this report and all the written inclosures thereto are submitted in duplicate, a printed tabular statement of "movements of troops" and a printed "roster," giving the names, stations, &c., of all the officers in the division, in triplicate.

I am, sir, very respectfully, your obedient servant,

WILLIAM D. S. HANCOCK,
Major-General Commanding.

To the ADJUTANT-GENERAL U. S. ARMY,
Washington, D. C.

REPORT OF MAJOR-GENERAL SCHOFIELD.

HEADQUARTERS DIVISION OF THE MISSOURI,
Chicago, Ill., October 14, 1884.

SIR: I have the honor to submit the following report of affairs in the Division of the Missouri, together with the reports of department commanders and chief staff officers, for the past year:

The last annual report made by the Lieutenant-General of the Army, then commanding this division, was dated October 17, 1883. On the 1st of November following, the Lieutenant-General relinquished command of the division to assume command of the Army, and Major-General Schofield assumed this command.

The organization of the division, composed of the four departments,

of Dakota, the Platte, the Missouri, and Texas, has remained without change as follows, viz:

The Department of Dakota, composed of the State of Minnesota and Territories of Montana and Dakota.

The Department of the Platte, of the States of Iowa and Nebraska, the Territories of Wyoming and Utah, and so much of the Territory of Idaho as lies east of a line formed by the extension of the western boundary of Utah to the northeastern boundary of Idaho.

The Department of the Missouri, of the States of Missouri, Kansas, Illinois, and Colorado, the Territory of New Mexico and the Indian Territory, Forts Elliott and Bliss, Tex., including the town of San Elizario, on the Rio Grande, and that portion of El Paso County lying north of an east and west line passing immediately south of San Elizario.

The Department of Texas, of the State of Texas, excluding posts of Forts Elliott and Bliss, and that portion of El Paso County in the Department of the Missouri.

The accompanying roster shows the distribution of troops throughout the division. Total, seven regiments and two companies of cavalry, nineteen regiments and one company of infantry, four batteries of field artillery, and thirty-one Indian scouts; aggregating 15,263 officers and men.

Maj. Gen. John Pope was relieved from command of the Department of the Missouri November 1, 1883, to assume that of the Division of the Pacific, and Brig. Gen. C. C. Augur assumed command of that department on that date, and has so continued since, with the exception of the period between May 2 and 27, 1884, when he was absent on detached service, and the division commander exercised immediate command of the department.

Brig. Gen. A. H. Terry has remained in command of the Department of Dakota, and Brig. Gen. O. O. Howard remained in command of the Department of the Platte until the 6th of March, 1884, since which time he has been "absent on leave," and the department under command of Col. John Gibbon, Seventh Infantry.

Brig. Gen. R. S. Mackenzie assumed command of the Department of Texas November 1, 1883, but was, on account of sickness, compelled to relinquish it on the 19th of December, and the department was under the immediate command of the division commander till May 8, 1884, when Brig. Gen. D. S. Stanley assumed the command.

The reports of department commanders give the details of all military operations in their respective departments. The accompanying reports of chief staff officers give full accounts of all administrative transactions in the division. It only remains for me to add such remarks and recommendations as seem to be required in the interest of the public service.

The necessity is very urgent for liberal appropriations to provide permanent shelter for the troops in this division. The period of "temporary huts" for the troops is passed. The tide of civilization has crossed the continent, the Indians have been located upon reservations, near which considerable bodies of troops must be stationed to preserve order and prevent or suppress any outbreak. Concentration of the troops at these, and a few other points of great strategic importance, is now possible, and should, on all accounts, be effected without delay. The stations to be occupied are no longer temporary in their nature, but permanent posts, and they should be provided with comfortable barracks and quarters. It is neither just nor wise to continue the occu-

pation of the temporary huts which were hastily and cheaply constructed, and which are now in a state of decay, some of them located where the troops can perform no possible good service, but where they must be kept because they cannot be quartered elsewhere.

In the matters of clothing and subsistence of the troops there is room for much improvement. The present uniform clothing is not well adapted to a warm climate, and the great cost of the first supply of clothing to the recruit as compared with his allowance, and the consequent reduction of his available pay, is considered a real hardship.

One part of the ration, mess-pork, is entirely unsatisfactory to a large proportion of the troops, while the want of fresh vegetables at posts where they cannot be raised is sorely felt. These are causes of great discontent and probably of desertion, which might easily be removed.

The orders of the War Department, issued in pursuance of the President's proclamation dated July 1, 1884, to remove intruders from the Indian Territory, were quietly executed by the troops of the Ninth Cavalry, under Col. Edward Hatch, without bloodshed or violence. Under more recent authority and instructions effective preparations have been made to prevent the incursion of unauthorized persons into that Territory, so that occasion may not again arise for the forcible removal of citizens from land on which they had, some of them perhaps innocently, commenced to make settlement.

Special attention is invited to the remarks of General Stanley respecting the Seminole Negro-Indians, recently discharged from the service in which they had been employed as scouts. Self interest as well as justice requires that these people be provided with a home where they can support themselves by honest labor. After having rendered good service in extirpating the former border thieves, they should not have been turned loose with no alternative but to steal or starve.

Attention is respectfully invited to the report of Colonel Gibbon, commanding the Department of the Platte, relative to the destitute condition of certain Indians in that department. Justice and humanity toward the Indians are the surest and least expensive means of preventing any further trouble with them. Starvation must necessarily drive the Indians to commit depredations upon the settlements in their vicinity. Retribution followed by war and ending in the destruction of the white settlements must be the result of any illiberal policy toward these natives of the plains. They have been deprived of their primitive means of support to make room for the vast herds of cattle which now supply meat for millions of our people. A small percentage of the profit derived from this pasturage would supply the Indians with abundant food.

Cases like that reported by Colonel Gibbon are happily no longer numerous, and it is to be hoped, for the honor of our country and the security of our frontier settlements, that no such cases will hereafter exist.

The reports of rifle practice in the several departments, and of the annual competitions recently finished, show continued improvement in that most important branch of military training. Experience has enabled the skilled marksmen of the Army to suggest some important modifications of the system now in use which may be expected to lead, from year to year, to still greater skill in the use of the rifle.

The School of Application for infantry and cavalry at Leavenworth has been ably conducted by Col. E. S. Otis, Twentieth Infantry, and the results accomplished in the short time since the school was organ-

ized have been highly satisfactory. Experience may be expected to lead in due time to even a higher degree of excellence, and to make this School of Application all that could be desired for the infantry and cavalry of the Army. I cordially commend the school to the fostering care of the Government, and recommend that Congress be asked for a small appropriation for books and apparatus, like that heretofore made for the Artillery School at Fort Monroe.

In this connection I beg leave to invite attention to the urgent necessity of a practical school for field artillery. With this single exception, our system of military instruction for the Regular Army is now complete, and the necessity for this addition is recognized by all who are conversant with the modern standards of field artillery in other countries, and with the condition of that in our Army. A school should be established where a large proportion of the batteries of artillery could, in succession, be thoroughly instructed in the science and practice of field artillery. This is the most difficult branch of modern military education. Good infantry may be obtained by a few months' instruction; cavalry in a somewhat longer period, while artillery requires years of the most thorough and scientific instruction to develop the full strength of that arm. All the *younger* captains of artillery *and their batteries*, as well as the lieutenants, should receive such instruction as to fit them for the most effective field service.

In compliance with the request of the adjutant-general of the State of Illinois, and the orders of the Lieutenant-General of the Army, Lieut. Col. N. B. Sweitzer, Eighth Cavalry, was detailed to inspect the troops of the Illinois National Guard, encamped at Rockford and Springfield, in the months of July and August. These inspections show the zeal displayed by the officers and men, and the great improvement made even in the very short time allowed; yet show the impossibility of acquiring the requisite military education in the time devoted thereto and by the means provided.

I beg leave, in this connection, to invite attention to the importance of schools for the practical instruction of the militia of the several States, since this militia must be relied upon to quell domestic disorder, and, in war, must constitute the great body of the United States Army. The many excellent military schools in the country, and the colleges where officers of the Army are detailed as military instructors, aim only at the partial education of *officers*. The urgent need is for the education of both officers and men in the use of the modern rifle, in the field maneuvers necessary to make the fire of the rifle effective, and in the details of army life both in camp and in garrison. One year of such instruction to young men between seventeen and twenty years of age would make excellent soldiers, far more valuable in action than many times their number of untrained militia. By such an education of a comparatively small number of young men every year a State would, in a few years, have a body of reliable troops equal to any probable emergency. Such reasonable aid as the National Government might well give to these schools in money, military materials, and experienced instructors would make the system inexpensive to the States and a most valuable addition to their present admirable public schools. After young men have entered upon their business career they cannot spare the time and means necessary for the military training which is now necessary to make efficient soldiers. Hence, this instruction should be given during the period of education, in a branch of the public schools, to such numbers of young volunteers as the States may wish to educate for their service.

In conclusion, I take pleasure in recording my high commendation of the manner in which the several department commanders, the troops generally, and the staff officers at these headquarters have discharged every duty.

Very respectfully, your obedient servant,

J. M. SCHOFIELD,
Major-General, Commanding.

The ADJUTANT-GENERAL,
Washington, D. C.

REPORT OF MAJOR-GENERAL POPE.

HEADQUARTERS DIVISION OF THE PACIFIC,
Presidio of San Francisco, Cal., October 4, 1884.

GENERAL: I have the honor to submit, for the information of the Lieutenant-General Commanding the Army, the following report of the military conditions in this division during the past year:

DEPARTMENT OF CALIFORNIA.

There has been little of interest to report in this department. Several changes of station of companies of the Eighth Infantry have been made, but no movements of troops on a large scale anywhere in the department.

The exchanges of the First and Second and Fourth and Sixth Cavalry, and the Twenty-first and Fourteenth Infantry, as ordered by the Lieutenant-General, were made without trouble or delay, and at the times and in the manner prescribed, except the delay of several companies of the Fourteenth by wash-outs on railroad.

The Indians in California and Nevada have continued and are likely to remain perfectly quiet. The only movement of troops which had any relation to Indians in these two States has been the dispatch of a small force to remove the intruders on the Indian reservation at Pyramid Lake, and the removal was effected without difficulty or resistance. It is not likely there will be any renewal of the trouble, as a non-commissioned officer is left there, and will remain for some time to see that no further encroachments are made.

It would seem very desirable that some arrangement be soon made to break up the Indian reservations near Fort Gaston and assign the lands included in them, in severalty, to the Indians now occupying them. These Indians are sufficiently civilized to understand and appreciate such a distribution among them of these extensive lands, and I have no doubt this arrangement would be both satisfactory and profitable to them and beneficial to the public interests.

I could wish, also, that the Indians who remain in the vicinity of Fort McDermitt be provided for in that neighborhood. They seem wedded to that region, and it seems impracticable to keep most of them anywhere else except by force. They have been, in my opinion, rather harshly treated for some years past, and have borne it quietly and peacefully. There does not seem to me any sufficient reason for keeping the large military reservation at McDermitt for military purposes, and certainly much of it could be properly and justly assigned to these Indians.

There does not seem to me any sufficient reason to keep up Fort Halleck; but as my recommendation to abandon it has not been favorably considered by the Lieutenant-General, I forbear any further remarks on the subject.

DEPARTMENT OF ARIZONA.

For a full and very satisfactory account of affairs in the Department of Arizona I respectfully refer to the inclosed report of General Crook. His account of the condition and progress of the Apaches is as satisfactory as it is surprising, and if continued will certainly, in a very few years, leave no necessity for alarm nor military protection in that region.

It is to be hoped that his recommendations and plans on the subject of these Indians may meet with cordial and efficient support in Washington. Of course the joint jurisdiction, as it now exists, over these Indians is unfortunate, and leads to continual controversies and sometimes bitter troubles between the officials of the War and Interior Departments, which should be eliminated from the question if possible. So far the wise and judicious course of General Crook and his subordinate officers in direct charge of the Indians has prevented any serious obstacles to the success of the present arrangements, but it cannot be told at what time such difficulties between these two sets of officials may jeopard the whole situation and again drive off Indians who now seem in a fair way to the adoption of peaceful pursuits. As the present progress and condition of these Indians seem largely due to General Crook's wise policy and the personal influence he has and maintains over them, it would appear in the highest degree judicious that he should be sustained strongly and firmly, and given such further authority and control as he thinks necessary to success. It is not necessary for me to express any opinion on the recommendation of General Crook that the franchise be given to the Apaches as a necessary part of his scheme for reclaiming them. It is a matter so far in the future, and so much more the business of the political than of the Military Department of the Government, that it seems rather out of place for the division commander to consider it at all.

In relation to General Crook's complaint about the horses purchased for his department, it is sufficient to say that the purchase was made on this coast, strictly in accordance with specific orders of the War Department and with the law, and that the inspecting officers were appointed from the Department of Arizona where the horses were to go, and that the officers are recognized as good judges and entirely competent.

A special report on this subject, made by the chief quartermaster of the division, will be forwarded in a few days.

DEPARTMENT OF THE COLUMBIA.

The inclosed report of General Nelson A. Miles, commanding the Department of the Columbia, gives all necessary details concerning it.

As in the Department of California, there has been no trouble with Indians, and nothing has occurred outside the ordinary routine of business under entirely peaceful conditions.

No doubt it is very desirable to have well-planned and equipped expeditions to explore Alaska thoroughly; but the military authorities on this coast have neither the authority nor the means to undertake explorations on a large scale, nor, indeed, on any scale which is likely to be of use or of much interest.

I think that proper consideration should be given to General Miles's remarks concerning the defenseless condition of the entrance to Puget Sound, and especially to ascertain the value, in a military view, of the reservation of land the Government has made for defensive arrangements. I think General Miles has done well to have some examination of this question made, and his report on the subject will be forwarded as soon as received.

CONCENTRATION OF TROOPS.

The advantages of concentrating the troops, whenever posts can be abandoned, are too well recognized to require argument.

A good beginning has been made in the Department of the Columbia, and last year I forwarded plans and estimates for the increase of buildings at the Presidio of San Francisco, for the purpose of enabling us to concentrate here all the garrisons in California and Nevada as fast as they could be dispensed with. I need not renew a statement of the reasons presented when those plans and estimates were forwarded. They were approved by the Lieutenant-General of the Army and by the Secretary of War, and the President of the United States transmitted the request of the War Department that the necessary appropriations be made to the Speaker of the House of Representatives. For some reason, no doubt want of time, they were not acted on.

I beg leave to renew my recommendation on that subject, and I respectfully ask that the matter be again referred to the proper committees in Congress, and an appropriation be asked in accordance with the plans and estimates above referred to.

It should seem that Vancouver, the Presidio of San Francisco, and some point to be selected in Arizona as near as practicable to the Mexican boundary line, are the proper places to concentrate, from time to time, all the troops in this division. My own impression is, that Fort Huachuca would be the most suitable point in Arizona; but I should defer entirely to General Crook's views on that subject.

In view of such concentration, these points should be prepared by systematic and regular improvements as funds can be used for the purpose, it being constantly had in view that the buildings should be put up according to a fixed plan, so that when everything is completed the post will accommodate the entire garrison it is proposed to place there.

TARGET PRACTICE.

The reports from the division on this subject have been so complete that it is hardly necessary for me to enter into the history of the matter.

The results have been surprisingly satisfactory, and I think warrant the reiteration of the opinion heretofore expressed by me in annual reports from the Department of the Missouri, that a very few years of persistence in the practice of the last three years will find at least thirty per cent. of the enlisted men of the Army qualified marksmen.

MILITARY PRISON AT ALCATRAZ.

The condition of the prison at Alcatraz is as satisfactory as could be expected under its present conditions, but it seems to me that if facilities for doing work useful to the Army in any of the mechanical departments could be afforded, the labor of the prisoners could be made far more useful than now to the benefit of the Government, no less than of the prisoners. Mere manual labor is, of course, limited in range, and is done now equally by the prisoner who can do nothing else as by the prisoner who is a good mechanic and who might be far more valuably employed.

I do not suppose that these facilities can be given in any way except by law, and I only mention the subject for the consideration of higher authority.

GENERAL.

The whole, or nearly the whole, occupation of the troops in this division during the past year has been drill and discipline, and the administrative duties incident to such a command, from which, however, we are now happily in a large degree relieved by the concentration of nearly all of the details of such duties in the supply departments in Washington. The concentration of the troops will, without doubt, greatly increase their proficiency in all the details of a soldier's duty, and as the conditions are as favorable to such concentration to-day as they are likely to be in the near future, it is hoped that advantage may be taken to begin the work soon. The building of quarters involving considerable enlargement of certain selected posts is necessary, and it is hoped that appropriations may be asked in this view, at least to make a beginning.

I inclose herewith reports of the chiefs of the staff departments at these headquarters. They show in detail the various operations of those departments, and will be found to exhibit a state of things in all respects creditable to the officers concerned.

I also inclose a roster of the division and a field return of the troops serving in it.

I am, General, very respectfully, your obedient servant,
JNO. POPE,
Major-General, Commanding.

General R. C. DRUM,
Adjutant-General U. S. Army, Washington, D. C.

REPORT OF THE ADJUTANT-GENERAL.

WAR DEPARTMENT,
ADJUTANT-GENERAL'S OFFICE,
Washington, October 15, 1884.

SIR: I have the honor to submit my annual report for the year ending September 30, 1884.

MILITIA.

In accordance with requests of State authorities, officers of the Army were detailed during the past summer and fall to inspect militia encampments at the following points:

Connecticut.—Near Chebaco Lake, by Major A. C. M. Pennington, Fourth United States Artillery.

Florida.—At Pensacola, by First Lieut. C. W. Foster, Third United States Artillery.

Illinois.—At Rockport and Springfield, by Lieut. Col. N. B. Sweitzer, Eighth United States Cavalry.

Iowa.—At Dubuque, by Capt. W. H. Powell, Fourth United States Infantry.

Maine.—At Augusta, by Capt. J. A. Fessenden, Fifth United States Artillery.

Massachusetts.—At South Framingham and Hingham, by Major A. C. M. Pennington, Fourth United States Artillery.

Michigan.—At Island Lake, by Capt. J. T. Haskell, Twenty-third United States Infantry.

Minnesota.—At Winona and Lake Calhoun, by Capt. G. Lawson, Twenty-fifth United States Infantry.

New Hampshire.—At Manchester and Concord, by Lieut. Col. L. L. Langdon, Second United States Artillery.

New York.—At Peekskill, by Capt. Edward Field, Fourth United States Artillery.

Pennsylvania.—At Gettysburg, by Col. H. M. Black, Twenty-third United States Infantry.

Rhode Island.—At Oakland Beach, by Capt. J. W. Roder, Fourth United States Artillery.

The reports received from the officers who were detailed to visit and inspect the several encampments are generally favorable as to the condition of the militia of the several States, and evidence great zeal and intelligence on the part of the officers. Copies of these reports have already been furnished to the State authorities concerned. When one reflects how little encouragement the militia has received from the majority of the State legislatures, and realizes the degree of perfection attained notwithstanding this apparent neglect, and the great difficulties they have had to overcome, one cannot but be surprised to find so much efficiency—a result that nothing but the greatest zeal on the part of the officers and military pride in the rank and file could have accomplished.

It is deemed unnecessary at the present day to dwell on the importance a well-organized and intelligent militia has upon national defense, as the fact has been recognized by all the statesmen and high military authorities of the country from the first establishment of our Government. Prior to the rebellion, however, but little attention was given by Congress to the subject, and it is only since the war—in which the volunteers displayed such soldierly qualities—that the necessity for national recognition has forced itself upon the country. During the last session of Congress a bill was presented by General Slocum, of New York, which, it is believed, has few, if any, defects, and its adoption would, doubtless, go very far to still further develop and improve the efficiency of the militia.

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RETIREMENT OF VETERAN SOLDIERS.

I had the honor in my last report to submit the reasons which, in my opinion, demand this recognition of the services of a small but very meritorious class of men, and presented instances illustrating the absolute necessity of such a measure. A bill for the purpose was introduced in Congress last winter, but from pressure of other business failed to become a law. It provided for the retirement of any enlisted man on the completion of thirty-five years of honorable service—fifteen of which as a noncommissioned officer—with 75 per centum of the pay and allowances of the non-commissioned rank held when retired. The justice of such a measure is so apparent that I only express my earnest hope that Congress will not delay longer this deserved acknowledgment of the services of humble but brave men who have borne the heat and the burden of the day.

TERM OF SERVICE.

The reduction of the first term of service from five to three years will, undoubtedly, materially decrease the number of desertions by eliminating a great source of discontent on the part of men whose inaptitude for the service makes them restless, if not desperate, at the far-off prospect of release from a contract entered into by them possibly in good faith, but also in profound ignorance of its demands and restraints.

SETTLEMENT OF CLOTHING ACCOUNTS.

The change from the semi-annual to a bimonthly settlement of clothing overdrawn by the soldier is again recommended as a measure beneficial both to the Government and the man. It would secure the former from the loss of the value of clothing issued to men who afterward desert and relieve the soldier from the grievous discomfort resulting from a stoppage of his pay for months to defray cost of clothing received by him, often necessarily, in excess of the regular allowance.

REWARDS.

One of the greatest preventives to the commission of crime is swiftness of detection and punishment. Unfortunately for the Army, deserters, unlike other criminals, enjoy almost absolute immunity from arrest. An examination of the statistics of desertion reveals the fact that since January 1, 1882 (nearly three years), of 9,120 deserters, only 272 surrendered themselves, and but 16 per centum, or 1,495, were apprehended.

The reward of \$30 should be exclusive of expenses of delivering the offender. In many parts of the country the insufficiency of the reward, coupled with present conditions, nullifies the offer. The necessary expenses of securing and delivering the prisoner should be defrayed by the Government, on presentation of proper vouchers, and the reward left intact.

In this connection I have the honor to recommend that the apprehension of deserters be made, by law, one of the duties of United States marshals and deputy marshals.

MILITARY PRISON.

The Military Prison at Fort Leavenworth continues to be an institution of growth, its capacity being still inadequate to the demand upon it. The progress made has been as satisfactory as in preceding years, and preferable to more rapid but necessarily less perfect preparation for its use as a permanent establishment. The report of the commandant for the year ending June 30, 1884, affords a most gratifying exhibit of the operations in the different departments during that period. The classes of work performed by prisoners are becoming more and more of an instructive character, including, as they do, a number of the mechanical trades and the cultivation of farm and garden produce. Whatever may be the opinion upon a question of the right of any Government to enforce a period of idleness upon a criminal and surround him with such restraints as to deprive him of all useful development of mind and body, a charge of this kind cannot with any propriety be made against the administration of the Military Prison.

The work upon building and repairs is stated at length in the report of the commandant, appended hereto. The work done for the Army may be summed up as follows: 9,707 pairs of boots, 33,975 pairs of shoes, 67 sets of harness, 160 saddles, 100 bridles, 200 halters, 100 hobbles, 150 whips, 20,000 corn-brooms, and 4,500 chairs. The yield from the farm was 1,200 bushels of corn, 3,000 heads of cabbage, 3,000 bushels of turnips, 400 bushels of beets, 300 bushels of tomatoes, 200 bushels of onions, and 150 bushels of potatoes. An addition of land within the military reservation was made to the prison farm, and the number of acres at present under cultivation is nearly 350. Besides

labor upon the prison buildings and farm, 59,107 days' work have been done for the Quartermaster's Department, representing, in wages, \$24,450.70, and the balance due the prison June 30, 1884, from that department was \$51,184.15.

The number of prisoners sent to the prison during the year has been limited to the accommodations, which, however, have been somewhat increased over the preceding year. The work of enlarging the prison yard is in progress, and in due time additional buildings will be erected. It is believed that no embarrassment has been occasioned at any of the military posts by the inability to receive convicts at the prison. In nearly all cases prisoners are collected at one point in each military department, and while there awaiting transfer are kept employed. Those on the Pacific Coast are collected at Alcatraz Island, and there serve out their terms under an administration nearly similar to that at the Leavenworth prison. A few are kept at Fort Snelling, Minnesota, and at Fort Columbus, New York Harbor, and are employed with advantage to the Government.

The number of prisoners June 30, 1883, was	467	
Received up to June 30, 1884	456	
		923
Discharged during the year.....	385	
Transferred	3	
Died	2	
Escaped	10	
		400
Remaining in prison June 30, 1884		523

Four of the escaped prisoners were recaptured, and are included in the number received.

The satisfactory condition and progress of affairs at the prison during the year, as found by the commissioners at their regular semi-annual inspections, bear testimony to the efficient discharge of duty by its officers, and it affords me sincere pleasure to make this special acknowledgment, which is their due. The regulations for the prison were carefully revised, and, as amended, published in general orders December 21, 1883, one of the most important modifications being a change in the relations between the officer in charge of the prison (improperly denominated the governor) and the department commander, who, *ex officio*, was the commandant. Under the new regulations the military title of governor has been dropped, and the officer in charge is the commandant, with the same relations to the department commander as the commanding officer of a military post, and with the immediate charge and control of prison affairs.

GOVERNMENT HOSPITAL FOR THE INSANE.

The following is a list of persons committed to the Government Hospital for the Insane, under the orders of the honorable the Secretary of War, from October 1, 1883, to October 1, 1884:

Officers of the United States Army.....	4
Late volunteer officers.....	1
Enlisted men of the United States Army.....	51
Late soldiers of the United States Army.....	8
Late volunteer soldiers.....	1
Inmates of the United States Soldiers' Home	3
Military prisoners.....	3
Employés of the Subsistence Department.....	1
Total	72

WORKING OF THE OFFICE.

The clerical and other force of this office, with a slight addition, which will be referred to presently, remains substantially the same as at the date of my last report.

The following table exhibits the labors of the Enlisted Volunteer Pension Branch and other divisions of the office engaged in business relating to claims for pension, bounty, homestead grants, &c.:

Statement of calls from the Commissioner of Pensions, Second Auditor, &c., for full or partial histories of officers and men of the late volunteer forces, in connection with claims for pension, bounty, back pay, subsistence, land claims, lost horses, &c.

	On hand Oct. 1, 1883.	Received during the year.	Total.	Finished during the year.	On hand 1884.
COMMISSIONER OF PENSIONS.					
Enlisted volunteer pension branch	15,110	97,898	113,006	101,940	11,066
Colored troops division	1,546	6,112	7,658	7,060	598
Volunteer service branch (officers' claims)	470	17,898	18,368	17,974	394
Total.....	17,126	121,906	139,082	126,974	12,058
SECOND AUDITOR.					
Enlisted volunteer pension branch	2,503	15,717	18,220	17,132	1,088
Colored troops division	356	3,508	3,864	3,280	584
Volunteer service branch	188	2,468	2,656	2,300	356
Total.....	3,047	21,693	24,740	22,712	2,028
THIRD AUDITOR.					
Volunteer service branch	28	521	549	503	46
GENERAL LAND OFFICE.					
Volunteer service branch	605	1,905	2,510	2,011	499
Colored troops division	3	47	50	46	4
Total.....	608	1,952	2,560	2,057	503
SUBSISTENCE DEPARTMENT.					
Enlisted volunteer pension branch	447	1,584	2,031	1,731	300
Colored troops division	1	75	76	76	.....
Total.....	448	1,659	2,107	1,807	300
PAY DEPARTMENT.					
Colored troops division	2	513	515	514	1

RECAPITULATION.

Number of calls from all sources:	
On hand October 1, 1883.....	21,259
Received during the year.....	148,244
	<hr/> 169,503
Finished during the year	154,567
	<hr/> 14,936
Remaining on hand October 1, 1884.....	

The results achieved are very satisfactory. Of the number of cases reported as remaining on hand 3,892 are completed so far as work in this office is concerned, but have been referred to the Surgeon-General for supplementary report—thus actually leaving but 11,044 cases on hand against 21,259 cases at the date of my last report.

The recent transfer to this office of such regimental hospital records as were on file in the Surgeon-General's office concentrates in one place the entire obtainable records of that class. Under this arrangement about 2,000 additional volumes of regimental hospital records have

been received and filed with other records of the regiments to which they properly belong. The advantages of this plan are obvious. Reports are completed in this office unless the papers show that the claimant has been treated in a general hospital away from regimental control.

In view of the fact that at the beginning of the late war and prior to the establishment of military general hospitals many soldiers were treated in various hospitals under control of the civil authorities, and that much information of value to the Government, as well as to the soldier, has been heretofore unattainable, an officer of my Department, on duty in this office, proceeded to New York last month, under instructions, and succeeded in making arrangements looking to this office being furnished abstracts from the records of the various hospitals and other benevolent institutions in New York City, Brooklyn, and county of Kings whereat Union soldiers had been treated during the late war. Much more work was found than had been even anticipated, and its completion will necessarily take considerable time, but when it shall have been added to the archives of the Department its value will be appreciated. The authorities of New York and Brooklyn afforded my representative every facility and aided him whenever possible.

For the purpose of completing—with the necessary details from the existing force—the regimental registers of the volunteer forces during the late war, Congress, near the close of its last session, provided for the employment of nine additional clerks. This little force, with a detail of three clerks from other divisions of the office, has been employed as provided for, and has made all the progress in the work possible to be made by twelve men. The compilation of registers is a labor of such magnitude that it will require a large force for several years to complete it. This will become evident when it is stated that it requires the labor of a diligent and well-instructed clerk for nine months to complete the register of one regiment. It has not been practicable, in view of other great interests, to detail more than three clerks in addition to the small additional force authorized, and if Congress shall deem it advisable to press this important work to completion, fifty additional clerks should be provided for, and if this increase be made, I beg to suggest the additional clerks be classified as follows: Four of class four, eight of class three, sixteen of class two, and twenty-two of class one.

While the absolute necessity of prompt reports on pension claims has been and is recognized, and, for that reason, I have unhesitatingly sacrificed—as secondary—much office work of value, there is a subject which is considered of paramount importance, and that is the preservation and perpetuation of the official records upon which reports are based. The question of preservation of the rolls of the Army is one that cannot be ignored. Nearly twenty years have elapsed since the close of the war, and from rot, necessary handling, and, primarily, the inferior quality of the paper, many thousands of our most valuable rolls are rapidly approaching the time when they will absolutely fall into dust. In the case of many other thousands the ink used was of inferior character, is fast becoming obliterated, and their deciphering at times puzzles our most skillful clerks. The value of these rolls—in a pecuniary sense alone—is inestimable. Upon their preservation and integrity depend the equitable adjustment of claims before the Court of Claims, the Pension Office, the Auditors of the Treasury, the General Land Office, the offices of the Quartermaster-General, Commissary-General, &c., wherein probably hundreds of thousands of our citizens are interested, and upon the rolls, and them alone, must the Government rely as a

protection against forgeries and frauds of various kinds. The calls upon this office for information from its records tax to the utmost the capacity of my present clerical force. These calls are urgent in character, and those, especially, from the Pension Office demand immediate attention. They are on the increase, and the number will not lessen for many years. Any practical amount of copying, by the present force, must manifestly be at the expense of pressing current work. That these rolls must be copied is an absolute and imperative necessity.

Nearly 130,000 rolls are found demanding copying within a short period. In round numbers, 40,000 of them should receive immediate attention. This will consume the best efforts of one hundred expert copyists for a little over three years, when, doubtless, the next 40,000 rolls will be in as bad condition as the first, or worse, and so on for the remainder of the whole number mentioned.

In view of these incontrovertible facts, I have the honor to urge that the attention of Congress be speedily called to this matter, with a view to its providing a suitable force for placing these valuable records beyond irretrievable loss in the near future. The urgency of early action is accentuated by the fact that recent legislation on the subject of remusters and removal of charge of desertion has resulted in the filing of upwards of 10,000 claims under the acts of June 3 and July 5, 1884, and many more will undoubtedly come in as the provisions of the above laws become more generally known.

In closing this report it affords me sincere pleasure to bear testimony to the general intelligence, efficiency, and faithfulness of my clerks.

Respectfully submitted.

R. C. DRUM,
Adjutant-General.

Hon. ROBERT T. LINCOLN,
Secretary of War.

REPORT OF THE ACTING JUDGE-ADVOCATE-GENERAL.

WAR DEPARTMENT,
JUDGE-ADVOCATE-GENERAL'S OFFICE,
October 1, 1884.

SIR: In compliance with your instructions of the 23d of September, 1884, I have the honor to submit the following report of the business of this office for the year ending September 30, 1884:

Commissioned officers tried by general courts-martial:		
Number of records reported upon and submitted to the Secretary of War for the action of the President.....	6	
Number of records received, revised, and recorded, not requiring the action of the President (convicted, 9; acquitted, 4).....	13	19
Cadets of the United States Military Academy tried by general courts-martial:		
Number of records reported upon and submitted to the Secretary of War.....	2	
Number of records received, revised and recorded, not requiring further action (convicted, 4; acquitted, 1).....	5	7
Number of records of courts of inquiry received, &c.....		2
Enlisted men tried by general courts-martial:		
Number convicted of desertion.....	700	
Number convicted of offenses other than desertion.....	1,356	
Number acquitted, or sentence disapproved by the reviewing authority.....	186	2,442
Military convicts tried and convicted by general courts-martial.....		10
Total number tried.....		2,452

Number of reports and opinions rendered upon proceedings of courts-martial, miscellaneous questions of law, applications for clemency, and other official business	1,643
Number of official applications from the War and Treasury Departments, and Pension Office, for abstracts of proceeding of trials, &c., answered.....	715
Number of copies of records furnished, under the one hundred and fourteenth Article of War, to parties tried, containing 9,430 pages.....	212
Number of copies of records furnished to the Pension Office.....	11

For the last five years the number of trials by general courts-martial has been constantly increasing. There were in 1880, 1,543; in 1881, 1,792; in 1882, 1,850; in 1883, 1,985; in 1884, 2,280.

Under the act of March 3, 1877, the records of garrison and regimental courts-martial are no longer forwarded to this office. The number of such records received and filed in the Departments in which the courts were held, as reported by judge-advocates at department headquarters, is as follows:

Department of Arizona	784
Department of California	600
Department of the Columbia	1,167
Department of Dakota	1,812
Department of the East	1,380
Department of the Missouri	2,267
Department of the Platte	1,826
Department of Texas	1,087

Total	10,983
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Number of cases tried last year	9,318
Increase of cases tried by inferior courts-martial over last year	1,665
Increase of cases tried by general courts-martial over last year	295

Total increase	1,960
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Total number of trials by general, garrison, and regimental courts, during the year ending September 30, 1884	13,263
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LAW-BOOKS FOR JUDGE-ADVOCATES.

The propriety of a small contingent fund for the offices of judge-advocates on duty at division and department headquarters is respectfully suggested for the consideration of the Secretary of War. These officers are called upon by their commanders for legal advice and assistance in the administration of the affairs of their commands, the preparation of charges, and the conduct of military prosecutions and investigations, and frequently appear in the courts of the United States and in the State courts, in matters touching the military service. In view of these facts, these officers should be enabled to procure the current legal literature of the day, in the form of, at least, text-books, digests, and law periodicals.

PER DIEM.

Civilians (including those in the employ of the United States) in attendance upon military courts receive travel expense, the actual cost of transfers, and \$4 *per diem*, (Army Regulations par. 1427, General Order 26, War Department, April 5, 1884), while officers of the Army who are obliged to leave their posts in attendance upon these courts, either as members, judge-advocates, recorders, or witnesses, under as great, if not greater, inconvenience and expense, merely receive travel-pay or mileage. It is believed that the best interests of the service demand, that an officer absent from his post, in attendance upon a military court, should receive the same *per diem* as civilian witnesses while in attendance upon such courts.

DEPOSITIONS.

An amendment of the law relating to deposition evidence before courts-martial is believed to be necessary. The ninety-first Article of War contains the only express statutory provision on this subject with reference to courts-martial. It reads:

The depositions of witnesses residing beyond the limits of the State, Territory, or district in which any military court may be ordered to sit, if taken on reasonable notice to the opposite party and duly authenticated, may be read in evidence before such courts in cases not capital.

A court-martial is a court of limited and special jurisdiction. Its proceedings must be governed by the Rules and Articles of War, the statutes enacted with express reference to the military service (in the nature of a supplement to the Articles of War), and the regulations legally made in pursuance thereof. Sections 183, and 863 to 870, of the Revised Statutes of the United States have not been enacted with reference to courts-martial, or the administration of military justice. Section 183 relates to the investigation of frauds by an officer or clerk of one of the great Executive Departments at the seat of Government, but an officer of the Army not attached by law to some Bureau or office of the War Department is not of the class of officers contemplated by this section. Sections 863 to 870, on the subject of deposition evidence, relates to the courts organized under the judicial power of the United States, in the exercise of their jurisdiction in civil causes in law, equity, and admiralty; they were originally contained in the "Act to establish the judicial courts of the United States," and the acts supplementary to and amendatory thereof, and never had any reference to courts-martial.*

It is said, by high authority, that statutes authorizing the use of testimony by deposition, being in derogation of the common law, must be strictly complied with; that courts-martial are bound by the common law of the land in regard to the rules of evidence, as well as other rules of law, so far as they are applicable to the manner of proceeding; and that such courts, when administering the military law, having cognizance only of criminal offenses, are bound by the rules of evidence administered in criminal cases in the courts of common law. It is believed, therefore, that the ninety-first Article of War is defective in not specifying before whom the depositions shall be taken. The prior law on the subject provided that the depositions might be taken before some justice of the peace, and probably this might still be done. There is now no uniformity observed on the subject, most depositions being taken before officers of the Army, (through necessity,) who have not, and never had, any authority to perform such acts. It is believed that a beneficial change of the law would be effected if officers of the Army were empowered to administer oaths and to take depositions, and authorizing courts-martial, or the Judge-Advocates thereof, to grant a *dedimus potestatem* to take depositions according to common usage, and authorize any such officer to subpoena witnesses, and to punish disobedience to such subpoena, and to compel witnesses to testify when so subpoenaed.

It is further believed that the officers of the Judge-Advocate-General's Department, and the Judge-Advocates of military courts, should be empowered to administer oaths in any cause or matter where an oath is necessary to be administered in the discharge of their official functions and duties.

* Par. 1752, U. S. Army Regulations, has reference only to affidavits or depositions taken for use in the matter of property accountability, and cannot, of course, be made to relate to the administration of justice in a criminal trial.

CONTEMPTS OF COURTS.

The subject of contempts of court is closely related to the foregoing. The eighty-sixth Article of War reads :

A court-martial may punish at discretion any person who uses any menacing words, signs, or gestures in its presence, or who disturbs its proceedings by any kind of riot or disorder.

Section 1202 of the Revised Statutes provides :

Every Judge-Advocate of a court-martial shall have power to issue the like process to compel witnesses to appear and testify which courts of criminal jurisdiction within the State, Territory or District where such military courts shall be ordered to sit, may lawfully issue.

The understanding is, that this section merely empowers the Judge-Advocate to bring a civilian witness before the court, but neither it nor the eighty-sixth Article, above quoted, empowers a court-martial, or its Judge-Advocate to impose punishment for the disobedience, or to force him to testify when brought before the court. The law should not rest in this indeterminate and imperfect state, in view of the large number of persons brought for trial before courts-martial.

TRIAL OF MILITARY CONVICTS BY COURTS-MARTIAL.

By section 1361 of the Revised Statutes, United States prisoners, in confinement at the military prison undergoing sentences of courts-martial, are liable to be tried and punished by courts-martial under the Articles of War for offenses committed during confinement. This applies, although by the sentence the prisoner has been discharged the service. It however only applies to convicts confined at the Leavenworth military prison, (there being no authority of law for the location of a "military prison" elsewhere,) and not to those confined at other places. For the sake of preserving necessary discipline, it is advisable that the law should be so amended as to embrace all places where military convicts are confined.

A copy of a recent decision by Judge Wallace, United States circuit judge, southern district of New York, in the case of Thomas Davison, a deserter from the Army, on *habeas corpus*, construing the one hundred and third Article of War, and sections 1116, 1117, and 1118, Revised Statutes, in their application to deserters and minors, is hereto appended.

Extracts from the reports of Judge-Advocates of departments, and of officers acting as such, embodying recommendations on various matters on the subject of the administration of military justice, are hereto appended, and respectfully submitted.

I am, very respectfully, your obedient servant,

G. NORMAN LIEBER,
Acting Judge-Advocate-General.

Hon. ROBERT T. LINCOLN,
Secretary of War.

REPORT OF THE QUARTERMASTER-GENERAL.

QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., October 9, 1884.

SIR: I have the honor to submit the annual report of the operations of the Quartermaster's Department during the fiscal year ending June 30, 1884:

The balance in the Treasury to credit of the Quartermaster's Department at end of June 30, 1883, was, as by last report.....	\$1, 295, 279 01
Appropriations for the fiscal year for the service of the Quartermaster's Department were, in gross, act March 3, 1883.....	9, 954, 234 85
For road to national cemetery at Chattanooga, Tenn.....	2, 500 00
For military posts	200, 000 00
Amounts deposited to the credit of appropriations and received from sales to officers, &c.....	648, 054 77
Total.....	12, 100, 068 63
Remittances to disbursing officers have amounted to...	\$10, 445, 063 26
Requisitions to pay settlements made at the Treasury on claims and accounts.....	225, 465 09
Carried to surplus fund, act June 20, 1874.....	235, 577 74
	10, 906, 106 09
Leaving balance in Treasury undrawn at end of June 30, 1884.....	1, 193, 962 54

The tables, statements, abstracts, &c., which accompany this report will be found to give the items of appropriations, expenditures, disbursements, &c., in all their details.

DUTIES OF THE QUARTERMASTER'S DEPARTMENT.

Under sections 219 and 220, Revised Statutes, and the authority of the Secretary of War, the Quartermaster's Department transports troops, munitions of war, equipments, military property, and all articles of supply from the places of purchase to the several armies, garrisons, posts, and recruiting places; provides for the safe keeping of such articles, the distribution, adequate and timely supply of the same to the regimental quartermasters and to such officers as may by virtue of the Secretary of War's regulations be intrusted with the same; and the officers of this department pay for store-rent and storage necessary for keeping such supplies.

By section 1133 it is further made—

The duty of the officers of the Quartermaster's Department, under the direction of the Secretary of War, to purchase and distribute to the Army all military stores and supplies requisite for its use which other corps are not directed by law to provide; to furnish means of transportation for the Army, its military stores and supplies, and to provide for and pay all incidental expenses of the military service which other corps are not directed to provide for and pay.

Section 1139 provides that—

The Quartermaster-General, under the direction of the Secretary of War, shall prescribe and enforce a system of accountability for all quartermaster's supplies (furnished) to the Army or to officers, seamen, and marines.

Again, by section 2 of the act of Congress approved July 4, 1864, it is made the duty of the Quartermaster-General to investigate and adjust all claims of loyal citizens in States not in rebellion, in words as follows:

And be it further enacted, That all claims of loyal citizens, in States not in rebellion, for quartermaster's stores actually furnished to the Army of the United States, and

receipted for by the proper officer receiving the same, or which may have been taken by such officers without giving such receipt, may be submitted to the Quartermaster-General of the United States, accompanied with such proofs as each claimant can present of the facts in his case; and it shall be the duty of the Quartermaster-General to cause such claim to be examined, and, if convinced that it is just, and of the loyalty of the claimant, and that the stores have been actually received or taken for the use of and used by said Army, then to report each case to the Third Auditor of the Treasury, with a recommendation for settlement.

By acts approved June 18, 1866, and July 23, 1866, the provisions of this act were extended to include the counties of Berkeley and Jefferson, West Virginia, and the loyal citizens of the State of Tennessee.

And further, it is provided by the acts of Congress and the regulations founded thereon, that the Quartermaster's Department shall secure grounds for national cemeteries, to preserve the graves of all soldiers who fell in battle, died of disease in the field or hospital, in the rebellion, from desecration; to secure suitable burial places for all honorably discharged soldiers, sailors, or marines who served during the late war, either in the regular or volunteer forces, dying subsequent to the passage of this act (approved March 3, 1873), in a national cemetery free of cost.

Provision is also made by law for the Quartermaster's Department to furnish suitable headstones to mark the graves of all soldiers, sailors, or marines, who have served during the late war, whose burial is provided for as above, or who may have been buried in private cemeteries.

Under these several acts, above recited, and others of like import, the Quartermaster's Department provides the means of transportation by land and water for troops and materials of war for the Army (but not for the transportation of the arms for the militia of the several States); it transports the property for other Executive Departments, on proper requisition, the outlay therefor being reimbursed to the appropriation for the department; it provides wagons, ambulances, carts, saddles, and horse equipments (except for the cavalry), and harness (except that used by the artillery).

This department provides vessels for water transportation; wharves; constructs and repairs roads for military purposes; pays tolls; and builds all necessary military bridges. It provides and distributes clothing, tents, and equipage; fuel, forage, stationery, lumber, straw for bedding for men and animals, and all material for camps and for shelter of troops and stores; furniture for barracks, such as bunks, benches, chairs, tables, and lockers; heating and cooking stoves for use in public barracks and quarters; tools for mechanics and laborers in the Quartermaster's Department, and lights for all military posts and buildings. It builds barracks, quarters, storehouses, and hospitals; provides, by hire or purchase, grounds for military encampments and buildings; supplies periodicals and newspapers, or school books in lieu of periodicals, if desired, to the post libraries for the use of enlisted men. It also provides grounds for cemeteries, and for the burial of officers and soldiers therein; lodges for superintendents of cemeteries, and, generally, for fencing, marking by suitable stones, and care of graves of soldiers who die in service on duty throughout the country.

Under the provisions of section 219, Revised Statutes, "other officers" than "regimental quartermasters," to the average number of 106, have been detailed in the Quartermaster's Department in doing its duties in various ways in the care and "distribution of the stores of the Quartermaster's Department, under the Secretary of War and his regulations."

These officers are justly entitled to extra pay for this extra service,

and continued efforts have been made for some years to get their extra pay allowed from the Pay Department of the Army. The attempt, however, to compensate them from that source has not met with success, and the unjust discrimination still exists between officers doing extra duty in the Commissary Department and those doing duty in the Quartermaster's Department. It is recommended that authority to pay \$10 per month to all line officers properly detailed (by any commander of a department or division) who actually renders consecutive service not less than thirty days at any one time, by the Quartermaster-General, from the appropriation for regular supplies; provided, that the total sum of such payments hereafter for any one year shall not exceed \$25,000. This recommendation is made for the reason that this service relates mainly to the care and distribution of these supplies to the Army as provided by law.

Congress has already wisely provided for extra-duty pay of clerks for these officers and others, and for a limited number of post quartermaster-sergeants, thus greatly ameliorating the quartermaster's service. It is hoped that this slight compensation to young officers for caring for regular and other supplies and their distribution may secure like favorable consideration.

To those officers who have never been called upon to assume the responsibility attached to these duties, and who may always have escaped their performance, this compensation will possibly seem an insignificant affair, but it is not, in itself, a small matter; because, to ignore the duties thus rendered by these officers is an injustice, and this Government cannot, in fact no Government can, afford to be unjust to any considerable number of its public servants, whether it be in the matter of extra pay for extra work and responsibility, or in the matter of furnishing quarters for its worthy and highest non-commissioned officers, or fuel for those officers compelled to live upon the distant frontiers, far removed from all forest growth and cheap markets for the extra fuel demanded by the rigors of the climate.

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INSPECTION BRANCH.

The inspection branch is in charge of Lieut. Col. J. G. Chandler, deputy quartermaster-general, U. S. A.

This branch of the office keeps the record of correspondence relating to the assignment to duty of officers of the Quartermaster's Department, and of the officers doing duty therein; also of correspondence relating to them individually as well as to all clerks, agents, and other employes of the department; it briefs, enters, examines, and acts upon the annual reports rendered by officers of the department; it has the monthly personal reports of the stations and duties of the officers of the department and of acting assistant quartermasters; keeps the "station book" and prepares the "roster of officers of the Quartermaster's Department, with rank, grade, stations, addresses, and services," and prepares the monthly returns of officers for the Adjutant-General's Office, under paragraph 722 Army Regulations.

It receives and distributes orders, circulars, pamphlets, &c., including technical text-books necessary to enable officers to discharge their multifarious duties.

One hundred and thirty-nine thousand three hundred and sixty-one general orders, &c., were received, and 116,004 distributed, during the year.

It also keeps a book of decisions affecting the Quartermaster's Department, a historical register of all clerks, messengers, and others employed in the office of the Quartermaster-General, with record of time lost, and prepares the pay-rolls of all such employes.

The report of the inspection branch of the office shows the existing organization of the Quartermaster's Department in detail, and the duties upon which the officers are engaged.

BARRACKS AND QUARTERS.

This branch is in charge of Lieut. Col. J. G. Chandler, deputy quartermaster-general, U. S. A.

The construction of sixty-five new buildings at military posts, located in Virginia, New York, Pennsylvania, Massachusetts, Maine, Mississippi, Florida, Colorado, Kansas, Texas, Nebraska, California, and in the Territories of Dakota, Montana, Wyoming, Utah, Arizona, and Washington, and District of Columbia, was authorized, at an estimated cost of \$121,753.

The cost of repairs made, including labor, tools, and materials, was \$419,360.

These expenditures for construction and repairs were distributed as follows:

For construction and repairs of wharves there was authorized and expended \$47,029.

For improving the water supply at posts and for sewerage there was authorized \$107,870.

From the appropriation by Congress of \$200,000 in the sundry civil bill, approved March 3, 1883, the Secretary of War made the following allotments, viz:

Fort Spokane, Wash	\$25,000 00
Fort Bliss, Tex	10,000 00
Fort Bridger, Wyo	33,500 00
Fort Douglas, Utah	19,000 00
Fort Omaha, Nebr	10,999 10
Fort Thornburgh, Utah	1,500 90
Fort Lewis, Colo	20,231 86
Fort Leavenworth, Kans	4,768 14
Fort Huachuca, Ariz	57,820 50
Fort Grant, Ariz	9,288 29
Fort Apache, Ariz	2,271 06
Fort Bowie, Ariz	3,338 29
Contingencies in Arizona	2,281 86
Total	200,000 00

For the construction of and repairs to hospital buildings, on recommendation of the Surgeon-General of the Army, the full amount of the appropriation therefor, \$100,000, was authorized and expended as follows, viz:

Division of the Missouri:

Department of the Platte	\$7,482
Department of the Missouri	29,291
Department of Dakota	7,454
Department of Texas	4,378
	<hr/> \$48,605

Division of the Pacific:

Department of California	5,234
Department of Arizona	6,281
Department of the Columbia	13,806
	<hr/> 25,321

Division of the Atlantic:

Department of the East	\$6,074
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The Army and Navy hospital at Hot Springs, Ark., construction has been continued throughout the year. The first contractor having failed, contract was made with his principal surety. After considerable progress was made this second contractor failed, when the work was taken up by the officer in charge.

Congress, in sundry civil bill approved July 7, 1884, made a further appropriation of \$8,000 to provide for the introduction of water service.

SALE OF BUILDINGS.

Under the act of Congress approved April 7, 1882, the sale of the reservation and military buildings at Savannah, Ga., was made on the 15th of November, 1883, at public auction, realizing \$67,381.88.

MILITARY SITES IN TEXAS.

Of the appropriation of \$200,000 for acquiring sites and erecting military posts in Texas, but \$523.68 remains unexpended. The details of expenditure will be found in papers accompanying this report.

POST CEMETERIES.

For removal of remains of deceased soldiers from abandoned posts and for restitution of headboards at established post cemeteries, an expenditure of \$3,000 has been incurred during the year.

FIRES.

The losses by fire reported during the fiscal year have been as follows, viz: Stable, mess-room, and kitchen at Fort A. Lincoln, Dak.; mess-house and company quarters at Whipple Barracks, Ariz.; saw-mill at Fort Meade, Dak.; guard-house and company quarters at Fort Sully, Dak.; office building and officers' quarters at Poplar River, Mont.; double set of officers' quarters at Fort Ringgold, Tex.; saw-mill at Fort Spokane, Wash.; and employés' quarters at Fort Pembina, Dak.

MILITARY RESERVATIONS.

The President of the United States, on March 24, 1884, declared a military reservation at Uncompahgre, Colorado, and on the 29th of April, 1884, he enlarged the reservation at Fort Niobrara, Nebr.

The recommendations of Lieut. Col. J. G. Chandler, deputy quartermaster-general in charge of barracks and quarters branch, as to the necessities for complete plans and specifications, including the latest methods of ventilating and heating, water service and sewerage for military buildings, are concurred in.

REMARKS UPON QUARTERING TROOPS.

The necessity of assembling the troops in larger and more permanent posts near Indian reservations, and in proximity to the great strategic points of the country, adjacent to its valuable public reservations, harbors, and forts, becomes daily more and more apparent on consideration of the principles of economy, efficiency, and wise government.

The large case-mated forts on the seaboard need garrisons for their preservation and defense, and the troops thus required ought to be

quartered, in time of peace, in barracks outside of the works, for the reason that case-mates do not furnish healthful quarters.

It is not humane to make men live in these structures which are unhealthy, unsuitable, and injurious to the mental and physical character of the occupant, except when in time of war great necessity enforces it. At Fort Adams, near Newport, R. I., at Fort Warren, Boston Harbor, and at Fort Hamilton, New York Harbor, there are required immediately, for sanitary reasons, barracks for the garrisons of these posts, outside of the walls of the forts.

DAVID'S ISLAND.

At David's Island is placed one of the large recruiting depots and schools for recruits for the Army. No action has yet been taken by Congress upon the appropriation required to erect permanent barracks and quarters at this important post. Under the special directions of the Secretary of War, temporary provisions have been made so to house the new recruits, in order that they shall not suffer in health and comfort, but the appropriation of \$130,000 for barracks and quarters at this place is still required; \$75,000 of it only can be well applied in the first year after the appropriation is made.

JEFFERSON BARRACKS.

This place, under the special directions of the Secretary of War, has been brought to a better sanitary condition, but there is still required the sum of \$25,000 for immediate use upon the barracks and quarters, in order to provide better accommodation for officers and men.

For full details of expenditures in connection with barracks and quarters, attention is invited to accompanying papers submitted in the report, attached hereto, of the officer in charge of that branch of the office.

TRANSPORTATION.

This branch is in charge of Lieut. Col. O. G. Sawtelle, deputy quartermaster-general, U. S. A.

Transportation was provided by the Quartermaster's Department, by railway, water, wagon, and stage, for 70,875 persons, 5,988 horses and mules, and 145,898 tons of freight, costing, as reported, \$1,999,635.81, of which \$334,732.87 was reported as paid for transportation of persons, \$958,253.31 for freight, leaving \$706,649.63 paid on accounts not strictly chargeable either to passenger or freight transportation, and on outstanding liabilities not settled at the close of the fiscal year.

TRANSFER OF TROOPS.

The larger movements of troops were:

First Cavalry.—Headquarters and nine troop from Department of the Columbia, and three troop from Department of California to Department of Dakota, costing \$50,647.27.

Second Cavalry.—Headquarters and nine troop from Department of Dakota to Department of the Columbia, and three troop from Department of Dakota to Department of California, costing \$53,359.02.

Fourth Cavalry.—Headquarters and eleven troop from Department of the Missouri to Department of Arizona, costing \$5,425.05.

Sixth Cavalry.—Headquarters and twelve troop from Department of Arizona to Department of the Missouri, costing \$20,913.97.

Tenth Infantry.—Headquarters and ten companies from Department of the East to Department of the Missouri, costing \$11,146.04.

Fourteenth Infantry.—Headquarters and six companies from Department of the Platte to Department of the Columbia, and four companies from Department of the Missouri to Department of the Columbia, costing \$56,005.91.

Twenty-first Infantry.—Headquarters and ten companies from Department of the Columbia to Department of the Platte, costing \$50,590.72.

Twenty-third Infantry.—Headquarters and ten companies from Department of the Missouri to Department of the East, costing \$14,204.65.

RAILWAY SERVICE.

Transportation was supplied by rail by the department for 30,339 persons, 5,512 horses and mules, and 81,094 tons material, at a cost; first, by payments from the appropriation for Army transportation, of \$991,253.04, as reported; of which \$265,383.58 were paid for transportation of persons, \$423,396.34 for live stock and freight, and \$302,473.12 for payment of outstanding accounts at the close of the fiscal year: second, by credit on account of the indebtedness of bonded Pacific Railways \$733,278.23, of which \$196,847.85, pertained to transportation of persons and \$536,430.38 to stock and freight; and, third, by payments to land-grant railways amount of the appropriation for the purpose, \$125,000; making the total cost to the United States for railway service furnished by the Quartermaster's Department during the year \$1,849,531.32.

DISTRIBUTION OF RAILWAY SERVICE.

Attached to this report, and marked A in the report of the officer in charge of transportation, will be found a statement of the various railway organizations which furnished transportation to the Quartermaster's Department, and the amounts received by the companies in payment therefor.

BONDED PACIFIC RAILWAYS, THEIR BRANCHES AND LEASED LINES.

Six thousand three hundred and seventy-two persons, 1,687 horses and mules, and 42,307 tons of material were transported for the Quartermaster's Department over the bonded Pacific Railways, their branches and leased lines.

The following tables show the details of this service :

Name of company.	Number of persons trans-ported.	Number of animals trans-ported.	Pounds of freight trans-ported.
Union Pacific (branches and leased lines).....	5, 698	1, 610	51, 500, 462
Central Pacific (branches and leased lines).....	447	23	31, 009, 622
Sioux City and Pacific.....	227	54	2, 104, 761
Total.....	6, 372	1, 687	84, 614, 845

COST.

The amounts which will inure for this service to the credit of the respective railroads, upon the books of the Treasury, aggregate the sum of \$733,278.23, and are distributed as follows:

Company.	Amounts of accounts referred to Treasury for settlement.	Estimated amount of accounts not rendered.	Proportion inuring for troops.	Proportion inuring for stores.	Total amount.
Union Pacific	\$318,300 87	\$86,696 40	\$67,096 41	\$337,900 86	\$404,997 27
Central Pacific	165,970 07	153,200 95	127,560 08	191,610 94	319,171 02
Sioux City and Pacific	4,197 29	4,912 65	2,191 30	0,918 58	9,109 94
Total.....	488,468 23	244,810 00	196,847 85	536,430 38	733,278 23

In addition, accounts for telegraphic service rendered by the Union Pacific Railway, amounting to \$1,413.55, were filed in this office, making the total amount inuring to the Union Pacific Railway Company \$406,410.82.

Of the above amounts inuring to these roads, the proportionate amounts accruing over the subsidized and non-subsidized portions of the respective roads are estimated as follows:

Company.	Total amount.	Subsidized.	Unsubsidized.
Union Pacific	\$404,997 27	\$352,537 72	\$52,459 55
Central Pacific	319,171 02	148,245 59	170,925 43
Sioux City and Pacific	9,109 94	752 05	8,357 89
Total.....	733,278 23	501,535 36	231,742 87

The following is a statement of the accounts of these companies which awaited examination and adjustment at the close of the fiscal year:

Company.	In Treasury.	In Quartermaster-General's Office.	Total.
Union Pacific	\$404,701 66	.....	\$404,701 66
Kansas Pacific	76,355 45	.....	76,355 45
Central Pacific	99,936 55	\$17,001 93	117,538 48
Sioux City and Pacific	16,374 62	.....	16,374 62
Total	597,368 28	17,001 93	614,970 21

The following statement shows the total settlements upon accounts adjusted in the Quartermaster-General's Office and the Treasury Department, for military transportation over these roads, from the date when they were first opened for traffic up to close of the fiscal year ending June 30, 1884:

Company.	Amount paid in cash under act of July 2, 1864.	Amount credited on bonds under act of July 2, 1864.	Amount withheld under act of March 3, 1873. (Rev. Stat., 5260.)	Amount withheld under act of May 7, 1878.	Amount to be reported to Congress. (See letter of Sec'y Treas.)	Total.
Union Pacific...	\$1,693,360 69	\$1,693,360 87	\$1,219,311 09	\$2,613,795 34	\$27,159 07	\$9,246,987 06
Central Pacific	261,106 21	261,106 29	691,132 83	1,642,987 49	221,090 76	3,077,423 58
Kansas Pacific	881,556 34	881,556 48	801,236 80	.....	8,166 63	2,572,516 25
Sioux City and Pacific	3,594 28	3,594 29	48,580 47	.....	2,313 19	56,082 23
Total.....	2,839,617 52	2,839,617 93	4,760,261 19	4,256,782 83	258,729 65	14,955,009 12

The following statement shows the amount of accounts of the Pacific railroad companies which have been acted upon in this office during the fiscal year :

Company.	Amount in Quartermas- ter-General's Office June 30, 1883.	Amount received dur- ing fiscal year.	Amount referred for settlement during fiscal year.	Amount in Quartermas- ter-General's Office June 30, 1884.
Union Pacific.....	\$1, 678 60	\$538, 826 96	\$540, 515 46	.....
Central Pacific.....	.....	314, 078 05	296, 471 12	\$17, 601 93
Kansas Pacific.....	.....	35 00	35 00	.....
Sioux City and Pacific.....	.....	18, 006 97	18, 006 97	.....
Central Branch, Union Pacific.....	.....	2 31	2 31	.....
Total	1, 678 60	870, 954 19	855, 030 86	17, 601 93

SETTLEMENTS FOR SERVICE.

The accounts of the subsidized Pacific railroads were adjusted under the following statutes, to wit: Act of March 3, 1873 (section 5260 Revised Statutes); act of May 7, 1878 (Statutes at Large, vol. 20, page 58), and act of March 3, 1879 (Statutes at Large, vol. 20, page 420), as interpreted in opinion of the honorable the Attorney-General, dated June 18, 1880.

The accounts of the unsubsidized portions of the Pacific railroads, under instructions of the honorable the Secretary of the Treasury dated June 27, 1883, promulgated to the Army in General Orders, No. 56, Adjutant-General's Office, of 1883, were directed to be paid in cash for such service to these companies. These instructions were modified by a circular letter from the Treasury Department under date of January 12, 1884 (see Appendix to report of Lieut. Col. C. G. Sawtelle, marked N), directing that the balances due for transportation over the unsubsidized portions be not paid, but reported subject to further disposition by Congress. The amounts for these services are therefore certified by the accounting officers and reported to the Secretary of the Treasury.

During the fiscal year the Union Pacific Railway Company relinquished control and operation of the Solomon Branch of the Kansas Pacific Railroad, running from Solomon to Beloit, 58 miles, and the Saint Joseph and Western Railroad, running from Saint Joseph to Grand Island, 252 miles.

These lines are therefore exempt from the provisions of the law governing settlements with subsidized railroads.

LAND-GRANT RAILWAY SERVICE.

The following statement shows the service and payments made, so far as reported, during the fiscal year ending June 30, 1884, for military transportation over land-grant railroads upon accounts adjusted in the Quartermaster-General's Office, and settled through the accounting officers of the Treasury, being at 50 per centum of the tariff rates for like

transportation performed* for the public at large, as prescribed by the laws appropriating money for their payment:

Name of land-grant company.	Under act of August 8, 1862 (deficiency), service during fiscal year ending June 30, 1881.	Under act of February 24, 1881, service during fiscal year ending June 30, 1882.	Under act of June 30, 1882, service during fiscal year ending June 30, 1883.	Under act of March 3, 1883, service during fiscal year ending June 30, 1884.	Total.
Atchison, Topeka and Santa Fe	\$908 00	\$166 79	\$25,775 71	\$16,286 00	\$43,222 16
Chicago and Northwestern		222 40	928 71	568 19	1,712 30
Chicago, Rock Island and Pacific			14 00		14 00
Chicago, Milwaukee and Saint Paul		79 39			79 39
Chicago, Saint Paul, Minnesota and Omaha	4,401 47	2,562 65	7,077 64	625 84	15,574 00
Florida Transit			3 40		3 40
Hannibal and Saint Joseph	46 90	257 27	61 57		357 63
Illinois Central	739 23				739 23
Kansas City, Lawrence and Southern	150 02		17 53		176 55
Louisville and Nashville	584 73	1,102 79	274 64		1,966 16
Mobile and Montgomery	416 53				416 53
Missouri Pacific			68 50	89 20	137 70
Northern Pacific	569 36	3,750 07	11,874 58	2,561 04	18,775 05
Pensacola	88 23				88 23
Saint Louis and San Francisco		8 51	685 95	183 25	877 71
South and North Alabama	278 99				278 99
Saint Paul, Minneapolis and Manitoba		1,520 18	2,619 70		5,148 97
Total	8,304 15	10,666 05	50,390 02	20,188 52	89,568 74

WAGON AND STAGE TRANSPORTATION SERVICE.

By wagon carriage the Department transported, as reported, 53,476 tons of military supplies at a cost to the appropriation for transportation of the Army of \$658,735.

Fifty-nine contracts for wagon carriage were filed during the year.

A new form of contract for wagon transportation, adapted to the service required in the West particularly, was adopted by General Orders, No. 99, Adjutant-General's Office, of 1883. The difficulties experienced during the existence and the operation of the old form of contract seem to have been entirely overcome.

Three thousand six hundred and seventy-seven persons and 2,064 pounds of stores and extra baggage were transported by stage during the year at a cost of \$55,000.33.

WATER TRANSPORTATION SERVICE.

During the year there were moved by water transport 36,860 persons, 476 animals, and 11,327 tons of material, at a cost of \$204,548.44. The United States steam-tug Atlantic ferried between Governor's Island, New York Harbor, and New York City 226,716 persons. The water-transport service was performed by vessels belonging to established commercial lines by contract and by vessels owned and chartered by the department.

Six contracts for water-transport service made by officers of the department were filed during the year.

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PAPERS ACCOMPANYING THE
INDEBTED RAILROADS.

The Edgefield and Kentucky, the McMinnville and Manchester, the Mobile and Ohio, and the Memphis, Clarksville and Louisville Railroad Companies are borne on the books of this office as indebted to the United States for rolling-stock and railway material purchased in 1865 and 1866, as heretofore reported. Congressional action seems necessary either to relieve the debtors or authorize and direct some practicable method of procedure for collection of the balances justly due. The papers relating to this indebtedness are deposited in this office—an unsafe structure, not fire-proof.

This department has neither the means nor the facilities for the collection of disputed debts, and it is therefore recommended that action be instituted to relieve it from further charge and responsibility in the premises.

CLAIMS AND ACCOUNTS.

Two thousand one hundred and ninety-four miscellaneous claims and accounts connected with the transportation service, and amounting to \$1,397,202.08, were adjusted during the year; of these, 2,076, amounting to \$1,166,098.04, were referred to the proper bureau or office for settlement; eighty-two, amounting to \$195,229.91, were unfavorably reported upon and rejection recommended, and thirty-six, amounting to \$35,874.13, were suspended for additional evidence; fifty-six, amounting to \$22,990.27, were at the close of the year awaiting action.

REGULAR AND MISCELLANEOUS SUPPLIES.

ANIMALS.

Thirteen hundred and three horses were reported procured by purchase during the year, costing \$186,731.98, an average cost of \$143.31 per head.

These purchases were mainly made under the direct orders of the Lieutenant-General of the Army.

For the Army trains and special service, 106 draft horses were purchased, at an average cost of \$181.60 per head; also 16 mules, at an average cost of \$181.62 per head.

The sale of 1,143 cavalry and artillery horses, 242 draft horses, and 1,551 mules is reported for \$158,998.62, all of which was deposited in the Treasury to the credit of miscellaneous receipts, excepting such small amounts as were received from sales of horses to officers.

The following is a summary of the number of animals purchased, sold, died, &c., during the year, and remaining on hand at its close, as indicated by reports received at this office:

	Cavalry and artillery horses.	Team horses.	Mules.	Oxen.
On hand July 1, 1883.	7,797	628	7,950	23
Purchased	1,303	106	16	.....
Taken up, &c.....	47	13	36	.....
Total to be accounted for.....	9,147	747	8,002	23
Sold	1,143	242	1,551	23
Died	189	18	221	.....
Lost and stolen	51	1	17	.....
Total sold, died, &c.,.....	1,383	261	1,789	23
On hand June 30, 1884.....	7,764	486	6,213	2

An interesting communication on the subject of the procurement of horses for the cavalry service by Captain Pond, assistant quartermaster, U. S. A., will be found in the report of Lieut. Col. C. G. Sawtelle, in charge of the supply branch of the office.

FUEL, FORAGE, AND STRAW.

The issues of fuel were 108,605 cords of wood and 50,999 tons of coal. Of forage, 46,166 tons of hay, 7 tons of fodder, 3,351 tons of straw for bedding, 579,234 bushels of oats, 334,280 bushels of corn, 128,795 bushels of barley, and 139,478 bushels of bran were issued.

WAGONS, AMBULANCES, AND HARNESS.

None of the adopted patterns of wagons were purchased during the year. Wagon parts for repairs, costing \$14,236.25, were supplied when needed. Hand-carts of a strong and desirable pattern were furnished to military posts at the rate of one to each company. These are found of great convenience, especially as the number of animals maintained is being reduced by legislation.

Under authority of the War Department, 67 sets wheel harness, 6-mule, were manufactured at the Military Prison at Fort Leavenworth, Kans., at a cost of \$39.52 per set; also parts of harness, or wagon saddles, riding saddles, bridles, &c.

STOVES AND RANGES.

There were delivered to the Quartermaster's Department by the Ordnance Department of manufacture at Rock Island Arsenal, Illinois, 235 Army heaters, and a complete stock of gratings and extra castings for repairs, at a total cost of \$4,160.15. Stoves and ranges of standard manufacture were purchased under contract at the general depots of the department at a total cost of \$65,800.

VETERINARY SUPPLIES.

During the year veterinary medicines and supplies costing \$9,072.28 were purchased from the Medical Department. A new supply table has been prepared, and by the adoption of which it is believed considerable saving will result, as well as safer veterinary practice.

ILLUMINATING SUPPLIES.

There were purchased, at a cost of \$7,113.32, 250 pendant lamps, 350 bracket lamps, 24 street lamps, and 411 lanterns, the necessary chimneys, wicks, and various necessary parts.

There were purchased 270,145 gallons of mineral oil, at a cost of \$49,618.52. The aggregate expenditure on account of lighting barracks and quarters, &c., was \$56,631.84.

The receipts from sales of illuminating supplies to officers reverts to the appropriation.

WOOD-SAWING MACHINES.

A supply of wood-sawing machines, with extra parts, was purchased at the general depots for issue to the larger posts occupied by troops where wood is principally used for fuel. It is believed that economy of fuel will result, with relief of the soldier from labor.

MISCELLANEOUS CLAIMS AND ACCOUNTS.

There were on file at the beginning of the year 13,146 claims and accounts, amounting to \$7,084,665.16, and 727 claims for \$231,619.52, and 857 accounts for \$110,243.18 were received during the year, making a total of 14,730, amounting to \$7,426,527.86.

Thirty-one claims were approved for \$8,078.78; 55 claims were referred to other departments, by report or otherwise, amounting to \$23,165.88; 1,044 claims for \$112,132.37 were referred to the Third Auditor of the Treasury for action of the accounting officers; reduction on claims approved and referred, \$25,881.72; 219 claims, amounting to \$78,702.11, were rejected; 825 accounts, amounting to \$76,671.70, were approved, being a reduction on the amount as presented of \$102.80; 96 accounts were referred to other departments, to which they pertained, amounting to \$27,255.72. Total upon which action has been taken during the year, 2,270 claims and accounts, amounting to \$351,991.08.

Twelvethousand two hundred and seventy-seven miscellaneous claims and 183 accounts, amounting to \$7,074,536.78, remain on file.

CLAIMS FOR QUARTERMASTER'S STORES UNDER ACT OF JULY 4, 1864.

This branch is in charge of Lieut. Col. B. C. Card, deputy quartermaster-general, U. S. A.

The work on these claims was continued throughout the year. There were investigated and reported upon by the agents, 3,558 claims, calling for \$1,726,642.29.

The work of investigation becomes each year more difficult and less satisfactory in results, but good progress is made by means of the system adopted.

There were on hand July 1, 1883, and received during the year, 12,087 claims, amounting to \$9,405,803.20.

Action was taken on 3,968, amounting to \$2,946,553.12, leaving on hand July 1, 1884, to be acted upon, 8,119 claims, calling for \$6,459,250.08.

In addition there were received 297 miscellaneous claims, amounting to \$48,114.54, and 826 of that character of claims, amounting to \$92,274.68, were finally disposed of.

The following statement shows number and amount of claims presented under the law, act July 4, 1864, and action taken thereon:

Number of claims presented to June 30, 1884	53,857
Number allowed	15,949
Number disallowed	29,789
Total acted upon	45,738
Number on hand July 1, 1884.....	8,119
Amount of 53,857 claims presented.....	\$38,399,529 41
Amount of 45,738 claims acted upon	31,940,279 33
Remaining claims (8,119).....	6,459,250 08

CLOTHING AND EQUIPAGE SUPPLIES.

This branch is in charge of Capt. John F. Rodgers, M. S. K., U. S. Army. It supplies the Army with clothing and equipage, which is purchased and manufactured at the general clothing depots at Philadelphia, Pa., Jeffersonville, Ind., San Francisco, Cal., and at the Military

Prison at Fort Leavenworth, Kans. The supplies have been ample and fully up to the required standards.

The amount appropriated by Congress was \$1,400,000, and there were deposited to the credit of the appropriation \$136,753.48 on account of clothing overdrawn by enlisted men, or from sales to officers. One million four hundred and ninety thousand, seventy-one dollars and fifty cents have been expended on account of purchases and manufactures. The balance in the Treasury on the 30th of June, 1884, was \$46,681.98, which, together with future credits, will be needed to pay outstanding indebtedness on account of clothing contracts entered into during the fiscal year. The principal articles of clothing and equipage issued during the last fiscal year were: 7,040 helmets, 11,760 cork helmets, 28,960 forage caps, 12,248 campaign hats, 8,000 overcoats, 2,000 uniform dress coats, 36,523 blouses, 7,369 canvas sack coats, 7,716 stable frocks, 13,189 pairs overalls, 68,987 pairs of trousers, 6,381 pairs canvas trousers, 33,047 pairs suspenders, 45,004 dark-blue shirts, 58,294 undershirts, 80,923 pairs of drawers, 119,885 pairs of woolen, and 127,061 pairs of cotton stockings, 209,547 pairs of Berlin gloves, 3,979 pairs woolen mittens, 10,160 pairs fur gauntlets, 18,445 pairs of boots, 23,382 pairs shoes, 4,400 pairs Arctic overshoes, and 31,135 woolen blankets. Much time and attention has been given during the last fiscal year to the improvement of the various articles of clothing and equipage issued to the Army. The following are the principal changes:

The sizes of trousers and blouses have been increased from five to twelve for the former and from five to six for the latter. It is hoped that the enlisted men can be easily fitted with these new sizes. So far as they have been tried they have met with favor. Canvas overcoats lined with blankets have been adopted, and will hereafter be issued to the Army at extreme northern posts, in place of the buffalo overcoats, which have become very costly, owing to the scarcity of the buffalo pelt.

Overcoats, uniform dress coats, and blouses, as well as trousers, will hereafter be issued unmade whenever desired. This will enable the troops to properly fit their persons and save the first cost of making, but the introduction of the new sizes will, it is thought, in time do away with the unmade clothing.

The Secretary of War having approved the recommendation of the Quartermaster-General, \$5 additional per annum in the first year of every enlistment will be allowed to each enlisted man for the purpose of having his new clothing altered to properly fit his person.

Materials of finer texture have been procured for issue to non-commissioned officers of the Army from which to make their uniforms. This, together with chevrons made of gold lace, will add materially to the attractiveness and appearance of the non-commissioned officers' full dress.

Action looking toward improvement in the fit and cut of the uniform dress coat, has also been taken and will be concluded, so soon as a proposed change in the facings of infantry dress coats shall have been decided upon.

A long felt want has been met by the adoption of fatigue coats and trousers, which are to be issued to all enlisted men on fatigue and extra duty without cost. These garments are made from the surplus shelter-tents in store which have been dyed to a dark brown color. The introduction of this kind of clothing has met with general favor throughout the Army. It protects the uniform clothing while the men are not employed on strictly military duty. The same material is utilized in the manufacture of warm lined canvas caps and gauntlets, which are issued

to troops serving in northern latitudes. The caps have a lining of blanket, and are intended as a substitute for the fur cap heretofore supplied. The canvas gauntlets are to be issued to men employed at outdoor work, such as cutting wood, ice, &c.

Leather gauntlets will hereafter be issued to mounted troops. A supply is now being procured for issue.

Sewed post and field shoes will be issued to the Army so soon as the stock of brass-screwed shoes shall be exhausted. A supply is now being made at the Military Prison at Fort Leavenworth, Kans.

Sewed boots of a different pattern have also been adopted and will likewise be issued to mounted men exclusively. The patterns of overcoats have also been revised and improved. They will, in the future, be provided with detachable capes.

The fur campaign hat of a drab color has finally been adopted, and will hereafter be purchased and issued to the enlisted men in lieu of the black wool hat which has been so much objected to.

Suspenders have been added to the clothing supply table.

Tents of improved pattern have also been introduced for the use of the Army. The common or "A" tents have been provided with walls two feet high, and the corners of these walls have been made so that they can be laced. This will give the enlisted men more room and allow the walls to be opened or closed at will, thus giving better ventilation. The new tents have been patented in the interest of the Government. All tents will hereafter be provided with ventilators. Modifications have also been made in the conical wall tents, adding to their usefulness and comfort.

The pattern of barrack chairs has been modified and improved thereby.

Mattresses, pillows, sheets, and pillow-slips have also been introduced for trial. Purchases are made gradually and issues will be continued from time to time, until the whole Army shall have been provided with them.

Barrack bags, made from dyed shelter tents, have been provided. They are to be issued to the enlisted men to pack their clothing in, and to preserve it from injury.

New company, regimental, and post books have been devised. A supply has been procured, and they are now ready for issue.

A complete set of uniforms for officers and enlisted men has been procured and sent to the International Health Exhibition at London, England.

Under special authority of the honorable the Secretary of War, all the surplus equipage in store at the general depots of the Quartermasters' Department has been disposed of by sale. This action was found necessary, owing to the fact that the stores had, from long storage, deteriorated. The amount realized from these sales was \$73,969.10. The expenses of these sales were \$930.73.

Four hundred and eighteen hospital tents were issued to the sufferers from the overflow of the Ohio River.

Under instructions from the War Department to the commanding general, Division of the Pacific, a limited quantity of condemned clothing has been issued to certain destitute Chiricahuas Indians, from the San Francisco depot.

Forty-two thousand three hundred and eighteen overcoats, 4 uniform coats, 346 blouses, 1,223 pairs overalls, 320 pairs trousers, 31 shirts, 36 pairs drawers, and 5 pairs woolen stockings, all condemned and old patterns, being the property of the National Home for Disabled Volunteer

Soldiers, under the act of Congress of March 31, 1881, have been transferred to the Home during the last fiscal year.

Two hundred hospital tents, valued at \$12 each, have been issued under directions of the Secretary of War to the authorities of the State of Nebraska, forming a charge against the appropriation for arming and equipping the militia of the States and Territories.

A reserve stock of 1,500 suits complete of uniforms has been ordered set aside at each of the depots at Philadelphia, Jeffersonville, and San Francisco, to be in readiness for issue at any time in case of a sudden emergency.

The cutting of clothing, heretofore done by days' work, has been for some time and will hereafter be paid for by the piece; a trial of several months at the principal depots having demonstrated that this new system has given satisfaction to both the employes and the Government.

New standards for the following articles of clothing and equipage were adopted; dark blue overshirts, trousers, blouses, cavalry standards, woolen blankets, barrack bags, canvas caps, sewed boots and shoes, overcoats, books, kersey, cotton duck, leather gauntlets, mosquito bars, canvas fatigue clothing, gold lace chevrons, suspenders, fur campaign hats, forage caps, Berlin gloves, axes, scrubbing brushes, dark blue blouse flannel, Italian cloth, black padding, canvas padding, black silesia, corset jeans, cotton rope, gilling line, tent slips, galvanized-iron rings, brass grommets, manila rope, thread, cotton twine, silk thread, and twist and sewing cotton.

The following specifications have been amended, adopted, and distributed to officers of the Quartermaster's Department, viz: Suspenders, canvas overcoats, chairs, overshirts, fur hats, trousers, blouses, woolen blankets, cavalry standards, conical, wall, and improved common tents; the latter of two kinds, closed and laced corners, hospital tents, wall tents, canvas caps, boots, field and post shoes, leather gauntlets, canvas coats and trousers, and mosquito bars. A set of plates illustrating the various articles of clothing and equipage now supplied by the Quartermaster's Department to the Army of the United States, giving measurements and dimensions of each article, will be found with the report of Captain Rodgers. For further and more detailed information upon the subject of the supply of clothing and equipage, attention is invited to the report and accompanying tabular statements of that officer.

MILITARY PRISON AND SUPPLIES.

There were manufactured at the Military Prison at Fort Leavenworth, Kans., 7,413 pairs of brass-screwed boots, 15,691 pairs of brass-screwed shoes, 2,294 pairs sewed boots, 8,352 pairs sewed "post" shoes, 9,224 pairs sewed "field" shoes, 201 pairs of shoes with flexible soles, 507 pairs "campaign" shoes, 4,500 barrack chairs, and 20,000 corn brooms, at a total cost to the clothing appropriation of \$126,143.34.

The sum of \$1,039.40 was realized and covered into the Treasury from the sale of scrap leather.

The labor of all kinds performed by the prison for this department amounted to \$24,450.70, of which \$13,208.25 should be credited to appropriation for clothing and equipage.

There was issued to the prison during the last fiscal year clothing and equipage to the value of \$4,142.49 and stores to the value of \$5,881.90.

The manufacture of supplies at the Military Prison is under Capt. A. P. Blunt, A. Q. M., brevet colonel, U. S. A.

This officer has performed duties of a character and responsibility, as regards the number of men under his immediate command, equal to the

customary duties of a colonel in the line of the Army. His services in regard to his own department and its supplies have been of great and increasing value; he has willingly co-operated in all efforts to improve the character and quality of those articles of supply prepared for the Army at the prison with singular intelligence and success.

NATIONAL CEMETERIES.

In charge of Lieut. Col. R. N. Batchelder, deputy quartermaster-general, U. S. A.

There are eighty-two national cemeteries, containing 321,623 interments.

On June 30, 1884, there were seventy-one superintendents.

Steady progress is made in the work of furnishing head-stones for soldiers' graves in private, village, and city cemeteries.

The department receives these stones under contract at the quarry and ships them hence to applicants.

The Mound City National Cemetery roadway, and also that of the New Albany National Cemetery, have been completed during the year.

The maintenance in good order of the many roads to cemeteries provided by act of Congress will necessitate a considerable annual expenditure.

Extensive improvements are in progress in the Loudon Park Cemetery.

The addition of 9 acres, donated by the commissioners of the Soldiers' Home, provides ample space for the national cemetery connected with the Home.

The grounds have been improved, and are in condition for interments. The road giving access to it needs considerable repairs and macadamizing.

Additional land has been purchased for the Cypress Hills National Cemetery, and the grounds are being prepared for use.

This addition will provide for all interments from the posts in New York Harbor and vicinity.

The purchase of the Arlington estate, as provided for in the act of March 3, 1883, was completed on March 25, 1884.

The means of approach to this cemetery still remains in an unsatisfactory condition.

If the Government is to acquire the ownership of the Aqueduct Bridge and convert it into a free highway, it will be a matter of the greatest importance to improve at once the road leading therefrom to the Arlington Cemetery.

The supply of the edition of the Roll of Honor is entirely exhausted. Frequent calls are made for this interesting record, the only one containing lists of interments in the national cemeteries.

In connection with the work of preparing inscriptions for the permanent head-stones, these records have been revised, corrected, and re-arranged, and it is important that a new edition be printed.

It is estimated by the Public Printer that 5,000 copies of three volumes each would cost \$30,000, and it is recommended that an appropriation be made therefor.

Attached to this report will be found a statement showing the disbursements on account of the national cemeteries and the purposes for which the funds were expended.

The efforts of this office have been steadily directed towards its proper and legitimate duties of supplying the Army, in so far as possible, with

the best articles obtainable for the money allowed for the purpose ; in securing such articles only as are suitable and necessary for the purpose intended, in getting the largest practical benefits from the appropriation for quartering the Army, and in storing its property, in perfecting and economizing its transportation, its labor and its regular supplies.

Continued efforts have been made to get good material for clothing and to secure the delivery of what was contracted for, in accordance with the terms of the contract, and in making purchases to get the best property of its kind, that a just regard for the careful expenditure of the public money would warrant. In all purchases and contracts the principle of full, fair, and equal competition has never been lost sight of or neglected; the same principles of competition have governed the transportation of the Army, by wagon, rail, and water. In all these efforts the Quartermaster-General gladly testifies to the unfailing support and assistance which he has everywhere received from the officers of his immediate department and from those doing duty therein. Especially is he indebted to those more immediately associated with him for intelligent, prompt, efficient, and successful aid and assistance upon every and all occasions, and without which assistance little of public benefit could have been accomplished.

S. B. HOLABIRD,
Quartermaster-General U. S. Army.

Hon. ROBERT T. LINCOLN,
Secretary of War.

REPORT OF THE COMMISSARY-GENERAL OF SUBSISTENCE.

WAR DEPARTMENT,
OFFICE COMMISSARY-GENERAL OF SUBSISTENCE,
Washington, D. C., October 15, 1884.

SIR: I have the honor to submit the following report of the operations of the Subsistence Department for the fiscal year ending June 30, 1884:

RESOURCES AND EXPENDITURES.

The following statement exhibits the aggregate fiscal resources and expenditures of the Department for the year mentioned, and the balances at the close of the fiscal year:

RESOURCES.

Amounts in the Treasury to the credit of appropriations of the Subsistence Department, on June 30, 1883, as follows:

Subsistence of the Army, 1882.....	\$26,617 30
Subsistence of the Army, 1883.....	75,925 88
Relief of persons rendered destitute by overflow of Mississippi River.....	732 32
Claims for quartermaster's stores and commissary supplies, act July 4, 1864, per act March 1, 1883, being portion for commissary supplies	32 00
Commutation of rations to prisoners of war in rebel States prior to July 1, 1879, act August 5, 1882...	1 75
Commutation of rations to prisoners of war in rebel States (indefinite).....	396 25

\$103,705 50

Amounts to the credit of officers of the Subsistence Department, and of officers doing duty in the Subsistence Department, with the Treasurer, assistant treasurers, and designated depositaries, and in their personal possession on June 30, 1883, as follows:

Subsistence of the Army, 1882.....	\$5 83
Subsistence of the Army, 1883.....	579,547 59

579,553 42

Amounts remitted by the Treasury near close of fiscal year 1883, but not taken up by officers by June 30, 1883, since taken up and disbursed, as follows:

Subsistence of the Army, 1883..... \$10,000 00

Amounts refunded to the Treasury near close of fiscal year 1883, but not carried to the credit of the appropriations by June 30, 1883, since covered in, as follows:

Subsistence of the Army, 1881 and prior years..... \$64 32
Subsistence of the Army, 1882..... 11 13
Subsistence of the Army, 1883..... 7,202 51

7,277 96

Amounts appropriated for the Subsistence Department for the fiscal year ending June 30, 1884, as follows:

Subsistence of the Army, 1884, act of March 3, 1883. \$1,900,000 00
Signal Service, subsistence 1884, act of March 3, 1883 164,779 72
Relief of sufferers from overflow of Ohio River and its tributaries, joint resolution of February 12, 1884, \$300,000; also similar joint resolution of February 15, 1884, \$200,000; in all \$500,000; from which deduct \$170,500, transferred to appropriation "Relief of sufferers from overflow of Mississippi River and its tributaries," under joint resolution of June 7, 1884 329,500 00
Relief of sufferers from overflow of Mississippi River and its tributaries, being amount transferred, as above, under joint resolution of June 7, 1884. 170,500 00

2,564,779 72

Amounts collected from various sources and refunded to the appropriations of the Subsistence Department on the books of the Treasury during the fiscal year 1884, as follows:

Subsistence of the Army, 1881 and prior years \$36 88
Subsistence of the Army, 1882..... 1,210 58
Subsistence of the Army, 1883..... 2,365 27
Subsistence of the Army, 1883, transfer account.... 7 85
Subsistence of the Army, 1884..... 6,688 59

10,309 17

Amounts collected from various sources during the fiscal year 1884, in process of cover into the appropriations of the Subsistence Department on June 30, 1884, as follows:

Subsistence of the Army, 1883..... \$15 92
Subsistence of the Army, 1884..... 150 94

166 86

Amount refunded on the books of the Treasury under act of March 3, 1875 (18 Stat. at Large, 418), as follows:

Subsistence of the Army, 1881 and prior years, transfer account \$1,532 50
Subsistence of the Army, 1882, transfer account.... 18 48

1,550 98

Amount received by officers of the Subsistence Department and by officers doing duty in the Subsistence Department from sales of subsistence stores to the following purchasers during the fiscal year 1884, and taken up for immediate disbursement under the appropriation Subsistence of the Army, 1884:

Sales to officers, \$414,450.61; to enlisted men, \$307,744.48; to companies, detachments, and hospitals, \$168,723.74; to civil employes, \$25,347.52; to Fort Leavenworth Military Prison, \$25,436.11; to United States surveyors, \$1,176.04; to Geological Survey, \$1,214.32; to civil employes of Smithsonian Institution, \$164.64; to soldiers' reunion, \$8.80; to Headquarters of the Army, \$1.10; to Indian agents, \$733.18; to Hualpai Indians, \$100.30; to physicians to Indians, \$223.74; to Quartermaster's Department, \$540.73; to Signal Corps, 20 cents; of surplus stores, \$18,124.97; of condemned stores at auction, \$5,240.12; of boxes, barrels, &c., \$390.24; of garden seeds and agricultural implements, \$286.34; total

969,907 18

Amounts taken up by officers doing duty in the Subsistence Department on account of reclamations for stores lost, damaged, &c., and in correction of errors in their accounts, &c., during the fiscal year 1884:

Subsistence of the Army, 1884..... 1,260 54

Amounts in hands of representatives of deceased officers to be collected:

Subsistence of the Army, 1878	\$109 84
Subsistence of the Army, 1882	248 63
Subsistence of the Army, 1883	1,234 23

\$1,592 70**Amount collected from representatives of deceased officers during the fiscal year 1884:**

Subsistence of the Army, 1883	12 60
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Amounts charged against deceased, resigned, and dismissed officers, on account of funds alleged to have been lost by theft, &c., as follows:

Subsistence of the Army, 1879 and prior years	3,000 89
---	----------

Amounts charged against officers still in service on account of funds alleged to have been lost by theft, &c., and for which relief can only be obtained in the Court of Claims, under sections 1059 and 1062, Revised Statutes, as follows:

Subsistence of the Army, 1879 and prior years.....	\$949 71
Subsistence of the Army, 1880	393 96
Subsistence of the Army, 1881 and prior years.....	3,865 47
Subsistence of the Army, 1882	39 18
Subsistence of the Army, 1883	115 16

5,363 48**Total resources 4,253,481 00****EXPENDITURES.****Amounts expended on the books of the Treasury from the appropriations of the Subsistence Department during the fiscal year 1884, as follows:**

Subsistence of the Army, 1882	\$7 22
Subsistence of the Army, 1883	1,060 49
Signal Service, subsistence, 1884	6,004 78
Claims for quartermaster's stores and commissary supplies, act July 4, 1864, per act March 1, 1883, being portion for commissary supplies	32 00
Relief of sufferers from overflow of Ohio River and its tributaries, joint resolutions of February 12 and 15, 1884.....	243 60

7,348 09**Amounts disbursed by officers of the Subsistence Department, and officers doing duty in the Subsistence Department, during the fiscal year 1883, as follows:**

Subsistence of the Army, 1883	\$571,862 87
Subsistence of the Army, 1884	1,991,952 62
Signal Service, subsistence, 1884.....	132,507 75
Relief of sufferers from overflow of Ohio River and its tributaries, joint resolutions of February 12 and 15, 1884	326,374 64
Relief of sufferers from overflow of Mississippi River and its tributaries, joint resolution of June 7, 1884.	160,439 34

3,183,137 22**Amounts dropped by officers doing duty in the Subsistence Department in correction of errors in their accounts during the fiscal year 1884:**

Subsistence of the Army, 1884	152 60
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Amount transferred on books of Treasury, act March 3, 1875 (18 Stat. Large, 418):

Subsistence of the Army, 1881 and prior years, transfer account....	18 80
---	-------

Amounts carried to the surplus fund on June 30, 1884:

Subsistence of the Army, 1881 and prior years.....	\$101 20
Subsistence of the Army, 1881 and prior years, transfer account, act March 3, 1875 (18 Stat. Large, 418).	66 40
Subsistence of the Army, 1882	23,337 62
Subsistence of the Army, 1882, transfer account	18 48
Subsistence of the Army, 1883, transfer account	7 85
Relief of persons rendered destitute by overflow of Mississippi River	732 32
Commutation of rations to prisoners of war in rebel States prior to July 1, 1879, act August 5, 1882 ...	1 75
Commutation of rations to prisoners of war in rebel States (indefinite).....	396 25

24,661 87

Amount lost by desertion of an officer:	
Subsistence of the Army, 1883	\$1,906 75
Total expenditures	<u>3,217,224 33</u>

BALANCES.

Amounts in the Treasury to the credit of appropriations of the Subsistence Department on June 30, 1884, as follows:	
Subsistence of the Army, 1883	\$99,654 24
Subsistence of the Army, 1884	458,703 09
Subsistence of the Army, 1881 and prior years, transfer account	1,447 30
Signal Service, subsistence, 1884	4,774 94
Relief of sufferers from overflow of Ohio River and its tributaries, joint resolutions of February 12 and 15, 1884	2,237 04
Relief of sufferers from overflow of Mississippi River and its tributaries, joint resolution of June 7, 1884.	500 00
	<u>567,316 61</u>
Amounts to the credit of officers of the Subsistence Department, and of officers doing duty in the Subsistence Department, with the Treasurer, assistant treasurers, and designated depositaries, and in their personal possession, on June 30, 1884, as follows:	
Subsistence of the Army, 1882	\$4,500 00
Subsistence of the Army, 1884	417,048 00
Signal Service, subsistence, 1884	21,492 25
Relief of sufferers from overflow of Ohio River and its tributaries, joint resolutions of February 12 and 15, 1884	644 72
Relief of sufferers from overflow of Mississippi River and its tributaries, joint resolution of June 7, 1884.	4,651 26
	<u>448,336 23</u>
Amounts refunded to the Treasury near close of fiscal year 1884, but not carried to the credit of the appropriations by June 30, 1884:	
Subsistence of the Army, 1883	\$508 42
Subsistence of the Army, 1884	10,150 94
Relief of sufferers from overflow of Mississippi River and its tributaries, joint resolution of June 7, 1884.	4,909 40
	<u>15,568 76</u>
Amounts in hands of representatives of deceased officers to be collected:	
Subsistence of the Army, 1878	\$109 84
Subsistence of the Army, 1882	248 63
Subsistence of the Army, 1883	1,312 23
	<u>1,670 70</u>
Amounts charged against officers (deceased and resigned) on account of funds alleged to have been lost by theft, &c., as follows:	
Subsistence of the Army, 1879 and prior years	3,000 89
Amounts charged against officers still in service on account of funds alleged to have been lost by theft, &c., and for which relief can only be obtained in the Court of Claims, under sections 1059 and 1062. Revised Statutes, as follows:	
Subsistence of the Army, 1879 and prior years	\$949 71
Subsistence of the Army, 1880	393 96
Subsistence of the Army, 1881	3,865 47
Subsistence of the Army, 1882	39 18
Subsistence of the Army, 1883	115 16
	<u>5,363 48</u>
Total balances	<u>\$1,041,256 67</u>

SOURCES OF SUPPLIES.

It has long been the policy and practice of the Subsistence Department to purchase the supplies that the law requires it to furnish to the Army as near the points of consumption as circumstances permit, due consideration being given to their quality and prices as compared with those of the same articles at the great markets, and also to the cost of transportation between the points of purchase and of consumption. The

great markets of the country, as Boston, New York, Chicago, Saint Louis, New Orleans, San Francisco, &c., have, as usual, furnished the Subsistence Department, as they do the smaller market cities and towns, the greater portion of the supplies required; but fresh meats, and to a great extent flour and fresh vegetables, have been obtained from dealers or producers at or near the points of consumption. It is greatly regretted that in some cases flour must be sent from a distance, for the reason that mills near the places at which required do not, from want of proper care, or from inferior equipments, produce an article of sufficiently good quality, and also because the producers frequently place so high a valuation on their productions as compared with their value at the market centers, as to render it cheaper to the United States to send the flour from distant points.

ADVERTISEMENTS AND CONTRACTS.

During the fiscal year ended June 30, 1884, 126 newspaper advertisements and 145 circulars and posters, inviting proposals for subsistence stores, were reported to this office. There were also reported 2,161 contracts of various kinds, for fresh meats, complete rations, and other supplies required for the subsistence of the Army.

Statement of the average contract prices per pound (independent of quantities purchased) in each State and Territory for fresh beef for supply of the Army in the fiscal years 1884 and 1885.

State or Territory.	Average price per pound.		State or Territory.	Average price per pound.	
	1884.	1885.		1884.	1885.
	Cents.	Cents.		Cents.	Cents.
Maine.....	10.25	9.66	Missouri.....	7.49	7.64
Massachusetts.....	10.73	10.27	Minnesota.....	8.95	8.45
Rhode Island.....	9.62	12.25	Nebraska.....	8.35	8.75
Connecticut.....	9.23	9.17	Kansas.....	7.76	7.49
New York.....	10.31	10.36	Indian Territory.....	8.93	9.46
Pennsylvania.....	13.87	13.75	Wyoming.....	9.37	9.79
Maryland.....	10.99	10.23	Dakota.....	10.18	9.58
District of Columbia.....	7.94	8.98	New Mexico.....	11.27	10.32
Virginia.....	7.61	7.11	Colorado.....	11.18	10.88
Georgia.....	10.00	10.00	Utah.....	9.37	10.90
Florida.....	11.50	11.25	Montana.....	10.94	9.66
Alabama.....	12.00	11.75	California.....	9.80	9.09
Louisiana.....	9.90	13.50	Arizona.....	10.76	11.04
Arkansas.....	9.00	8.75	Washington.....	9.36	9.98
Texas.....	8.90	8.22	Idaho.....	9.38	11.00
Kentucky.....	12.00	12.00	Nevada.....	13.25	19.62
Ohio.....	8.60	8.00	Oregon.....	10.75	9.99
Indiana.....	9.48	9.40			
Illinois.....	10.00	9.00			
Michigan.....	11.17	11.66			
			Average price.....	10.01	10.24

This statement indicates an advance in the average contract price of beef for the fiscal year 1885 of nearly one-quarter of a cent a pound over the price for the fiscal year 1884.

RELIEF OF SUFFERERS FROM OVERFLOW OF OHIO RIVER AND ITS TRIBUTARIES.

In February, 1884, a great freshet in the Ohio River and its tributaries caused the overflow of a large section of country, embracing portions of Kentucky, Ohio, and West Virginia, causing much destitution and suffering. Immediate relief was necessary, and Congress, by joint resolutions approved February 12 and 15, 1884, appropriated the sum of

\$500,000 to be expended, by and under the direction of the Secretary of War, in the purchase and distribution of subsistence stores, clothing, and other necessary articles, to such destitute persons in the overflowed district as might require assistance. The instructions in reference to purchasing and distributing the supplies were given by the Secretary of War directly to the officers assigned to that duty, and their reports were made directly to him ; but the accounts and returns relating to the supplies were, by direction of the Secretary of War, rendered to the Commissary-General of Subsistence. The supplies purchased were rapidly distributed by the purchasing officers under the direction of the Secretary of War, by co-operating with the State and city authorities in the overflowed district, the deliveries as a rule being made to said authorities and distributed by them to the destitute persons requiring assistance.

Of the \$500,000 appropriated, there were placed to the credit of disbursing officers of the Army the following sums, viz :

Lieut. Col. A. Beckwith, assistant commissary-general of subsistence.....	\$100, 000
Capt. Samuel T. Cushing, commissary of subsistence.....	135, 000
Col. Rufus Saxton, assistant quartermaster-general	125, 000
Maj. James R. Roche, paymaster, U. S. A	1, 000
Total.....	361, 000
Of this amount there was expended	326, 374

RELIEF OF SUFFERERS FROM OVERFLOW OF THE MISSISSIPPI RIVER
AND ITS TRIBUTARIES.

A month later, March, 1883, a large section of country bordering on the Lower Mississippi River, embracing portions of Arkansas, Mississippi, and Louisiana, was overflowed. Relief was asked, and Congress, by joint resolution approved March 27, 1884, appropriated so much of the appropriation for the relief of sufferers by the overflow in the Ohio River and its tributaries as remained unexpended, not exceeding the sum of \$125,000, to be used by the Secretary of War in the purchase and distribution of subsistence stores, and payment for necessary transportation to aid in the relief of destitute persons in the overflowed district. The Subsistence Department was charged by the Secretary of War with the duty of procuring and distributing the supplies, and orders to purchase, ship, and distribute them were sent to Capt. F. F. Whitehead, commissary of subsistence, U. S. A., at New Orleans, La., and to Lieut. Col. A. Beckwith, assistant commissary-general of subsistence, U. S. A., at Saint Louis, Mo. Both these officers acted with great promptness, and within four days from the date of approval of the joint resolution making the appropriation supplies were on the way to the sufferers by boats both from Saint Louis and New Orleans.

Of the \$125,000 appropriated there were placed to the credit of disbursing officers the following sums :

Lieut. Col. A. Beckwith, assistant commissary-general of subsistence.....	\$55, 000
Capt. F. F. Whitehead, commissary of subsistence, U. S. A	69, 000
Maj. James R. Roche, paymaster, U. S. A	1, 000
Total	125, 000

Again, under joint resolution of Congress, approved June 7, 1884, there was appropriated for the relief of the sufferers by the overflow of the Mississippi River and its tributaries, so much of the appropriation for the relief of sufferers by the overflow in the Ohio River and

its tributaries is remained unexpended, the sum of \$45,000. This amount was placed to the credit of Capt. F. F. Whitehead, commissary of subsistence, U. S. A., for the purchase and distribution of supplies. Of the two amounts, viz, \$125,000 and \$45,000, there was expended \$160,439.34. Under the joint resolution above referred to, subsistence was procured by Lieut. Col. A. Beckwith, assistant commissary-general of subsistence, U. S. A., and Capt. F. F. Whitehead, commissary of subsistence, U. S. A., and distributed by them, with the aid of the relief committee selected by the Secretary of War, consisting of M. Gillis, Isaac Scherck, Louis Bush, and James Lewis, all of New Orleans, La., and the aid of local relief committees, and of the officers of the Army detailed for the purpose, as shown by the following tables:

Statements of subsistence furnished for the relief of sufferers from the overflow of the Mississippi River and its tributaries under the joint resolutions of February 12 and 15 and June 7, 1884.

UNDER THE RESOLUTIONS OF FEBRUARY 12 AND 15, 1884.

By Lieut. Col. A. Beckwith, assistant commissary-general of subsistence, at Saint Louis, Mo.

State.	County or parish.	Salt meat.	Flour.	Corn meal.	Coffee, green.	Coffee, roasted.	Sugar.	Salt.
		<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Tennessee ...	Oblon	4,910	.....	7,000	.....	.....	.....	.....
Arkansas	Philips	73,180	.....	120,000	3,043	.....	4,084	1,066
Mississippi	Adams	15,077	.....	20,200	1,924	.....	2,755	200
Do	Claitorne	1,237	.....	1,700	.....	18	30	80
Do	Coahoma	1,350	.....	1,800	184	.....	200	20
Do	Jefferson	16,833	196	28,704	326	.....	584	107
Do	Lee	6,000	.....	8,000	804	.....	1,248	.....
Do	Warren	38,111	400	64,050	11	472	1,091	180
Louisiana	Concordia	62,310½	100	87,525	5,178	.....	7,715	962
Do	Carroll	5,026	588	0,100	.....	274	802	.....
Do	Madison	16,968	.....	28,400	.....	.....	.....	10
Do	Tensas	108,404½	3,728	144,621	3,770	220	6,509	1,435
Total		840,433	5,012	518,100	18,190	982	25,628	4,150

By Capt. F. F. Whitehead, commissary of subsistence, New Orleans, La.

State.	County or parish.	Salt meat.	Flour.	Corn meal.
		<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Louisiana	Assumption	3,750	.....	6,200
Do	Avozelles	48,750	3,120	77,762
Do	Caldwell	27,083	.....	40,250
Do	Catahoula	73,586	11,581	100,652
Do	Concordia	41,298	12,049	47,235
Do	East Baton Rouge	240	.....	400
Do	Franklin	6,409	1,581	8,857
Do	Iberville	7,500	.....	12,464
Do	Iberia	2,840	.....	4,400
Do	Jefferson	11,620	.....	19,587
Do	Lafourche	26,010	2,744	40,400
Do	Orleans	750	.....	1,300
Do	Plaquemines	12,125	.....	21,800
Do	Pont Campée	182,086	42,461	174,608
Do	Richland	1,675	.....	1,800
Do	Saint Charles	10,769	4,893	18,074
Do	Saint James	9,750	.....	0,250
Do	Salut Landry	21,825	.....	36,375
Do	Saint Mary	4,500	.....	7,000
Do	Tensas	38,260	25,067	35,214
Do	Terrebonne	12,890	.....	23,176
Do	West Baton Rouge	1,875	1,922	1,655
Do	West Carroll	1,956	800	2,560
Do	West Feliciana	6,968	.....	9,967
Total		600,848	112,504	708,000

UNDER THE RESOLUTION OF JUNE 7, 1884.

By Capt. F. F. Whitehead, commissary of subsistence, New Orleans, La.

State.	County or parish.	Salt meat.	Flour.	Corn meal.
		<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Louisiana.....	Avozelles.....	27, 698	9, 130	40, 300
Do.....	Caldwell.....	15, 360	.....	25, 600
Do.....	Caddo.....	14, 176	.....	23, 800
Do.....	Catahoula.....	28, 110	5, 684	40, 532
Do.....	Concordia.....	28, 980	13, 524	33, 272
Do.....	East Baton Rouge.....	000	.....	1, 000
Do.....	East Carroll.....	3, 720	.....	6, 200
Do.....	Franklin.....	8, 745	2, 156	12, 178
Do.....	Grant.....	8, 837	.....	14, 500
Do.....	Jefferson.....	13, 500	.....	22, 500
Do.....	Lafourche.....	3, 420	.....	5, 700
Do.....	Madison.....	15, 420	4, 116	21, 126
Do.....	Natchitoches.....	2, 277	.....	3, 800
Do.....	Point Coupée.....	26, 190	20, 870	20, 459
Do.....	Richland.....	10, 440	.....	17, 400
Do.....	Saint Landry.....	8, 820	5, 670	8, 600
Do.....	Tensas.....	92, 280	68, 404	77, 795
Do.....	West Feliciana.....	900	.....	1, 500
Do.....	Ouachita.....	780	.....	1, 300
Do.....	Rapides.....	9, 052	.....	15, 100
Mississippi.....	Adams.....	5, 580	.....	9, 300
Do.....	Claiborne.....	480	.....	800
Do.....	Jefferson.....	3, 000	.....	5, 000
Do.....	Warren.....	1, 920	.....	3, 200
Do.....	Wilkinson.....	800	.....	500
Total.....	.....	830, 585	125, 554	411, 452

ISSUES TO INDIANS.

Subsistence supplies were issued to Indians during the fiscal year ended June 30, 1884, to the following amounts in value:

To Uncapapa Sioux Indians, prisoners of war, at Camp Poplar River, Mont.	\$1, 281 49
To Warm Spring Apache Indians, prisoners of war, at Fort Union, N. Mex.	1, 738 83
To Chiricahua Indians, prisoners of war, in the field and at San Carlos, Ariz.....	26, 225 94
To Creek Indians, prisoners of war, at Fort Gibson, Ind. Ter.....	1, 965 02
To Indian prisoners of war at various posts and of different tribes.....	449 28
To Indians visiting posts under A. R. 2182 and 2183.....	843 56
To friendly Indians.....	51 26
To destitute Indians.....	271 67
To Hualpai Indians at Hackberry, Ariz.....	851 79
Total.....	33, 678 84

The value of the issues to the Hualpai Indians, which is not to exceed \$5,000, is to be reimbursed to the Subsistence Department by the Interior Department.

MISCELLANEOUS ISSUES AND EXPENDITURES.

Issues were made, under orders from commanding officers, during the fiscal year ended June 30, 1884, as follows, in cases not specially provided for by regulations:

	<i>Rations.</i>
To citizen prisoners.....	1, 742
To destitute citizens.....	1, 400
To marines (deserters), in May and June, 1884, at Fort Huachuca, Ariz.....	82

Ninety thousand eight hundred and ninety-eight cooked rations for recruits and recruiting parties at rendezvous were purchased during the fiscal year ended June 30, 1884, at a cost of \$45,204.11, or at an av-

erage cost of 49.7305 cents per ration (or board for one day), which average is nearly 1 cent less than that for the previous year.

The disbursements for liquid coffee for enlisted men traveling by cars, stages, &c., amounted to	\$9,515 00
For extra-duty pay of enlisted men detailed for duty in the Subsistence Department at posts	12,177 00
For advertising for proposals, &c.....	5,470 91

LOSSES OF STORES AND PROPERTY.

Losses in transportation were reported for which no one was found responsible, and by extraordinary wastage, &c., amounting to \$8,275.20, being \$5,075.01 less than losses from like causes the previous year.

During the fiscal year stores were lost in transportation, and the responsibility therefor fixed amounting to	\$1,033 45
Of this there has been collected and accounted for by officers, or covered into the Treasury	\$640 03
And there has been collected, but not yet covered in.....	129 20
	<u>769 23</u>
Leaving balance yet to be collected.....	264 22

Value of supplies lost by fire, accident, theft, &c., during the fiscal year ending June 30, 1884.

Where.	Cause per report.	When reported.	Value.
In the field, Montana.....	Accident	July, 1883.....	\$11 26
At Terry's Landing.....	Stolen	July, 1883.....	57 42
Do	do	July, 1883.....	356 83
En route to Fort Maginnis.....	do	July, 1883.....	49 90
En route to Camp Mitchell.....	Accident	July, 1883.....	12 29
En route to Fort Thornburgh.....	Stolen	July, 1883.....	29 41
En route to Fort Assinaboine.....	By sinking of steamer Big Horn.	July, 1883.....	5,006 06
En route to Cœur d'Alene.....	Jettisoned from steamship Queen of the Pacific.	September, 1883.....	586 56
En route to Fort Lapwai.....	do	October, 1883.....	104 05
At Whipple Barracks.....	By fire.....	November, 1883.....	66 43
At Camp on Uncompahgre	Stolen	November, 1883.....	43 77
At Fort Meade.....	do	November, 1883.....	123 90
At Fort Clark.....	do	November, 1883.....	56 48
At Fort Davis	do	January, 1884.....	314 46
At Brazos Santiago	By stranding of steamer J. C. Harris.	March, 1884.....	76 14
At San Antonio	Stolen	March, 1884.....	116 68
Do	do	May, 1884.....	185 61
At Fort Maginnis.....	Cattle stampeded by storm..	May, 1884.....	443 28
At Barrancas.....	Accident	June, 1884	16 05
En route to camp on Cimarron River.	do	June, 1884	11 03
En route to Lady Franklin Bay	Sinking of steamer Proteus by the ice.	.....	9,916 27
			<u>17,783 88</u>

The value of the subsistence stores inspected and condemned during the fiscal year ended June 30, 1884, was.....	\$24,251 80
From such as were ordered sold was realized the sum of.....	5,158 72
	<u>19,093 08</u>
Net loss on account of stores condemned.....	19,093 08
Being an increase over the previous year of.....	<u>4,432 04</u>

ARMY COOKING.

The proper cooking of their food is such an absolute necessity for the preservation of the health and the comfort and efficiency of the troops, that I venture again to invite attention to the importance of providing for the enlistment of cooks and bakers for the Army. One cook to each

company, troop, or battery, and to each of the three general depots for recruits, and a baker to each garrisoned military post or station, would greatly ameliorate the condition of the soldier, and, when considered in connection with the end to be gained, would be found to add but little to the expense of the Army, while greatly increasing its efficiency. The present system of temporary details from the small company strength, subject to frequent changes, for cooks and bakers, is vicious in the extreme for garrison service. The men so detailed are inexperienced, and from the temporary nature of the employment they take but little interest in it, and frequently look upon the work with disgust. The natural result is good materials transformed into absolutely unwholesome food by bad baking or cooking.

In this connection I desire to recommend that the net proceeds of the savings on flour in post bakeries be divided among the troops contributing the flour, in proportion to their contributions, and that none of such savings be diverted to "post funds."

COMMISSARY SERGEANTS.

At the commencement of the last fiscal year the number of commissary sergeants in service was	134
During the year the following were discharged:	
At their own request	3
By reason of expiration of term of service	1
By death	2
On surgeon's certificate of disability	1
	<hr/> 7
Remainder.....	127
There was appointed during the year	1
	<hr/>
Total in service June 30, 1884.....	123

CIVIL EMPLOYÉS IN THE SUBSISTENCE DEPARTMENT.

In the act making appropriations for the support of the Army for the fiscal year 1884, a limit was for the first time specified for the amount that might be applied to the payment of civilian employés of the Subsistence Department of the Army. The appropriation for the fiscal year 1885 again specified the limit. The expenditures in the fiscal year 1884 were kept within the limit by reducing the number below what the best interests of the service required, and by reducing the compensation of many old and faithful employés, who were receiving but just and fair rates of pay for their services. It has ever been the practice of the Subsistence Department to keep the expenses for employés at the lowest point consistent with efficient service, and it is believed that the records will show that the numbers and compensation of its employés can safely be left, as in the past, at the discretion of the head of the Bureau, under the direction of the Secretary of War.

The number absolutely necessary at the various stations depends entirely upon the amount of work to be done. This varies with the necessities of the service, and with a limit already below that required by the best interests of the service, there is danger that in case of emergency the service will be crippled and necessarily inefficient at critical moments. I therefore recommend that it be urged upon Congress, if it deems it proper to continue a specific limit, that the following words be added to the limiting clause in the appropriation act, viz: "*Provided, That said amount may be increased by the Secretary of War, if the necessities of the service at any time so require.*"

ACCOUNTS AND RETURNS.

Accounts and returns on hand June 30, 1883, received and examined during the fiscal year ended June 30, 1884, and on hand June 30, 1884, awaiting examination, as follows:

On hand June 30, 1883—accounts current	254
Received during year—accounts current	2,507
On hand June 30, 1883—returns of subsistence stores	230
Received during year—returns of subsistence stores	1,981
On hand June 30, 1883—returns of subsistence property	5
Received during year—returns of subsistence property	766
Total.....	5,743

During the year accounts and returns were examined and sent to the Third Auditor, as follows: Accounts current 2,473, with 29,416 vouchers; returns of subsistence stores 1,974, with 27,366 vouchers; returns of subsistence property 755, with 1,784 vouchers.

On hand at close of the year awaiting examination:

Accounts current.....	288
Returns of subsistence stores.....	237
Returns of subsistence property	16
Total.....	541

The accounts and returns received in the year were rendered by 448 officers. In connection with the examination of the above 4,191 letters were written, 1,013 referred, and 107 papers copied; 770 returns of official postage stamps accompanied by 2,154 vouchers were examined and filed during same fiscal year.

CLAIMS.

Act of July 4, 1864 (Section 300 B, Revised Statutes).

There were at the commencement of the fiscal year ending June 30, 1884, on file in this office, awaiting examination, under the third section of the act of July 4, 1864, and the acts and joint resolutions supplementary to said act, 116 claims; during the year 24 more were received from the office of the Third Auditor of the Treasury, and that of the Quartermaster-General of the Army, and 2 disallowed (old) claims were reopened upon additional evidence—making in all 142 claims to be acted upon.

Formal decisions were rendered during this period in 140 cases, of which 14, amounting to \$5,089.27, were allowed in the sum of \$1,342.33, and recommended to the Third Auditor of the Treasury for payment, and 126, amounting to \$142,071.09, were disallowed.

There remained on hand July 1, 1884, awaiting examination and decision, 2 claims of this class.

In my last annual report I stated:

The wisdom of the act of March 3, 1879, barring the further presentation of claims under 300 B, Revised Statutes, becomes more and more apparent as we recede from the period between 1861 and 1864, in which these war claims originated. As early as 1872 the Commissary-General of Subsistence, in his annual report, stated:

“The task, originally very difficult, of investigating and deciding these cases with equity and justice becomes daily more so from the passing away by deaths and removals, and from imperfect memories after lapse of so long a period, of so many officers and others alleged to have taken or received the stores, or to have knowledge of them,
* * * while these very difficulties but add security, if not increased facilities, to

the prosecution of fraudulent claims, * * * and a proper examination of them requires more time and attention than the Commissary-General is able to give them, without neglecting other and, in my opinion, more important duties appertaining to the Subsistence Department, and he should be relieved from this duty."

Each year's experience furnishes additional proof of the correctness of these views, and now, ten years later, it is found, except in very rare cases, that officers and others, when appealed to concerning the facts of these claims, can give but vague and unsatisfactory information, founded on fragmentary impressions lingering in their memories, if they retain any recollection whatever of such matters occurring from eighteen to twenty years ago, and which were not then regarded of more than passing importance.

Further legislation is greatly needed as to claims filed in this office under the act of July 4, 1864, that have been examined and not recommended for payment by myself or predecessors. The act of 1864 is explicit as to the disposition to be made of the claims in which a decision favorable to the claimant is reached by the Commissary-General of Subsistence. He is required "to report each case for payment to the Third Auditor of the Treasury, with recommendation for settlement." The act is not so clear as to what disposition is to be made of the claims in which the decision is against the claimant. There is no expressed limitation as to the time within which the claims are to be considered, nor as to the number of times they can be reopened and re-examined. As a result, claimants, either directly or by former or new attorneys, press upon the Commissary-General of Subsistence the reopening and re-examination of claims that have been years before carefully examined and decided adversely to the claimant.

I have frequently heretofore, in my annual reports, recommended that the examination of this whole class of war claims be transferred from this Bureau to some other tribunal.

I now earnestly recommend that Congress be urged to fix some future date for the termination of action by the Commissary-General of Subsistence under 300 B, Revised Statutes, and that some tribunal be established or designated, to which all such claims on file in this office, whether pending or disallowed, shall be transferred.

This recommendation is renewed, as the last year's experience has but served to render more certain the necessity for the action recommended.

Joint resolutions of July 25, 1866, and third section of act March 2, 1867.

At the commencement of the fiscal year there were on file in this office 1,971 claims for commutation of rations to Union soldiers while held as prisoners of war, and during the year 1,369 claims were received, making a total of 3,340 claims of this class for examination. Of these, 1,321 were partially examined; 2,019 examined and decided, of which 1,152 were rejected, and 867, amounting to \$22,083.25, were allowed and recommended to the Third Auditor of the Treasury for payment. In addition, 17 rejected (old) claims were re-examined upon additional evidence and again rejected.

MISCELLANEOUS CLAIMS.

There were at the commencement of the fiscal year 486 miscellaneous claims on hand, and during the year 417 were received, making a total of 903, of which 184 were recommended for payment in the aggregate sum of \$1,955.75; 308 were rejected and 411 were partially examined. Besides these, 20 rejected (old) claims were re-examined upon additional evidence, of which 19 were again rejected and 1 allowed and recommended to the Third Auditor of the Treasury for payment in the sum of \$32.

LETTERS AND INDORSEMENTS.

In connection with the three classes of claims mentioned, 12,519 communications were sent out during the year, and many briefs of evidence and extended examinations of official records were made.

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DUTIES AND STATIONS OF OFFICERS OF THE SUBSISTENCE DEPARTMENT.

The duties and stations of officers of the Subsistence Department on the 30th day of June, 1884, will appear from the roster hereto appended.

During the year the officers of the Department have been actively and efficiently employed.

Very respectfully, your obedient servant,

R. MACFEELY,

Commissary-General of Subsistence.

Hon. the SECRETARY OF WAR.

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REPORT OF THE SURGEON-GENERAL.

WAR DEPARTMENT,
SURGEON-GENERAL'S OFFICE,
Washington, October 1, 1884.

SIR: I have the honor to submit the following statement of finances and general transactions of the Medical Department of the Army for the fiscal year ending June 30, 1884:

FINANCIAL STATEMENT.

Medical and hospital department, 1882:

Balance from previous fiscal year.....	\$124 69
Disbursed during the year.....	124 69

Medical and hospital department, 1883:

Balance from previous fiscal year.....	44,821 39
Refunded for supplies sold	2,537 40
Received for supplies lost, &c	107 76

Total to be accounted for.....	47,466 55
Disbursed during the year	46,813 72

Balance June 30, 1884	652 83
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Medical and hospital department, 1884:

Appropriated by act of March 3, 1883	190,000 00
Received for supplies sold	10,741 71
Received for supplies lost	139 86

Total to be accounted for.....	200,881 57
Disbursed during the year	113,827 59

Balance June 30, 1884.....	87,053 98
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This balance was covered by previous contracts and obligations, and the greater part of the money has since been expended.

Medical department of the Signal Service, 1884:

Appropriated by act of March 3, 1884, viz:

For medical attendance and medicines.	\$3,500 00
Medical attendance and medicines for officers doing duty in connection with the Signal Service.....	100 00
Medicines for officers and enlisted men.....	1,000 00
Medical and hospital supplies for Fort Myer, Va	900 00
Repair of hospitals at Fort Myer.....	200 00

Total to be accounted for.....	5,700 00
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Disbursed during the year, viz:		
For medical attendance and medicines.	\$1,883 19	
Medicines for officers and enlisted men	900 46	
Medical and hospital supplies for Fort Myer	864 84	
Repair of hospitals at Fort Myer.....	200 00	
		<u>\$3,848 49</u>
Balance June 30, 1884		<u>1,851 51</u>
Artificial limbs, 1881:		
Balance from previous fiscal year		2,213 22
Transferred to appropriation for 1884, under act of March 3, 1883....		<u>2,213 22</u>
Artificial limbs, 1882:		
Balance from previous fiscal year.....		64,050 79
Transferred to appropriation for 1884, under act of March 3, 1883....		<u>64,050 79</u>
Artificial limbs, 1883:		
Balance from previous fiscal year		26,330 06
Disbursed during the year.....	\$2,085 90	
Transferred to appropriation for 1884, under act of March 3, 1883	24,244 16	
		<u>26,330 06</u>
Artificial limbs, 1884:		
Appropriated by act of March 3, 1883		\$110,000 00
From appropriation for 1881.....		2,213 22
From appropriation for 1882.....		64,050 79
From appropriation for 1883.....		<u>24,244 16</u>
Total to be accounted for.....		200,508 17
Disbursed during the year		<u>169,924 04</u>
Balance June 30, 1884.....		<u>30,584 13</u>
Appliances for disabled soldiers, 1882:		
Balance from previous fiscal year.....		2,644 00
Carried to the surplus fund.....		<u>2,644 00</u>
Appliances for disabled soldiers, 1883:		
Balance from previous fiscal year.....		\$1,778 75
Disbursed during the year.....		<u>105 00</u>
Balance June 30, 1884.....		<u>1,673 75</u>
Appliances for disabled soldiers, 1884:		
Appropriated by act of March 3, 1883		2,000 00
Disbursed during the year.....		<u>657 00</u>
Balance June 30, 1884		<u>1,343 00</u>
Medical and Surgical History:		
Balance from previous fiscal year.....		8,534 65
Disbursed during the year		<u>31 05</u>
Balance June 30, 1884		<u>8,503 60</u>
Museum and Library, 1883:		
Balance from previous fiscal year		2,094 55
Disbursed during the year.....		<u>2,094 55</u>
Museum and Library, 1884:		
Appropriated by act of March 3, 1883		10,000 00
Disbursed during the year.....		<u>8,224 04</u>
Balance June 30, 1884.....		<u>1,775 96</u>
Expended in furnishing trusses under acts of May 28, 1872, and March 3, 1879		<u>3,482 95</u>

ARTIFICIAL LIMBS AND TRUSSES.

There were furnished during the year:

In kind:

Trusses	615
Artificial legs	34
Artificial feet	2
Apparatus for the leg	1
Artificial arms	4
Apparatus for arms	1

Commuted:

Trusses	----
Artificial legs	151
Artificial feet	19
Apparatus for the leg	1,354
Artificial arms	354
Apparatus for arms	1,767

It is provided by existing law that artificial limbs and appliances shall be issued, or commutation therefor paid, once every five years. The fourth period of five years will commence on the 17th of June next; an increased amount of appropriations for this purpose has therefore been requested for the next fiscal year over the amounts asked and provided for the past three years; the reason for the increase is shown in a foot-note to the item in the estimates of appropriations. I would add that the number of persons claiming relief by reason of loss of limbs or of the use thereof, is continually on the increase.

In carrying out the laws for furnishing trusses some cases are observed in which there is apparent hardship, if not injustice; for instance, a soldier ruptured during the war with Mexico, although he may be receiving a pension on account of hernia, is not entitled to receive a truss. Under the law as it now stands (secs. 1176, 1177 and 1178, Rev. Stat., and Supl., p. 450), the following classes of persons are not entitled to trusses: Those who were ruptured at any time while serving as commissioned officers of whatever grade; those who were ruptured prior to April 19, 1861, whether commissioned or enlisted, although the disability may have been incurred in the line of duty and during the prevalence of war; and those who have been ruptured since August 20, 1866, whether commissioned or enlisted, unless the disability may have been incurred in the line of duty during war.

It is recommended that existing law on this subject be so amended as to correspond with that relating to artificial limbs; that is, to allow a truss, suitable to his disability, to every person who has been, or may hereafter be, ruptured in the line of duty while serving in the Army or Navy. It may be proper to add that the only evidence of rupture in the line of duty accepted by this office is that furnished by the Pension Office, that the applicant is in receipt of a pension (either wholly or in part) on account of hernia.

MEDICAL AND HOSPITAL SUPPLIES.

The money value of medical and hospital supplies actually issued during the last fiscal year was \$166,557.06, and the cost of the supplies which will be required for issue during the current fiscal year will probably exceed that amount by at least \$25,000, owing to the necessity for the purchase of an adequate supply of articles recently added and to be added to the standard supply table of the Medical Department. This estimate is based on the fact that the average cost of the medical

supplies issued annually during the fiscal years July 1, 1876, to June 30, 1883, was, approximately, \$186,500.

I am therefore of the opinion that an appropriation of \$250,000 will be required for the medical and hospital department, as set forth in an estimate submitted on the 10th of September, 1884, and for the reasons briefly stated in a foot-note on said estimate.

I would respectfully repeat the suggestion made in my last annual report, that such Congressional legislation may be requested as will permit the proceeds of sales of medical supplies, prescribed by a medical officer of the Army, to civilian employes (act making appropriations for support of the Army for fiscal year ending June 30, 1884, approved March 3, 1883) to be carried to the current appropriation for the Medical Department of the Army, and that the amount may become available for replacing articles sold, which may be accomplished by excepting "Sales of medical supplies, prescribed by a medical officer of the Army, to civilian employes of the Army," from the provisions of section 3618 of the Revised Statutes, as is the case with the "sales of commissary stores to the officers and enlisted men of the Army."

The expenditures during the last fiscal year from the appropriation for the "Signal Service—medical department," under the act of Congress, approved March 3, 1883, and the balances remaining on hand June 30, 1884, are submitted in the "Financial statement."

The disbursement of this appropriation was placed under the direction of the Surgeon-General of the Army by General Orders No. 32, A. G. O., May 2, 1883.

HEALTH OF THE ARMY.

The monthly reports of sick and wounded received at this office represent for the year an average mean strength of 20,230 white, 2,309 colored, troops, and 210 Indian scouts.

There are 37,073 cases of admission to treatment reported among white troops, being at the rate of 1,833 per 1,000 of mean strength; an increase of 31 per 1,000 over the number reported for the previous year, and 99 per 1,000 over the average decennial rate of admission.

Of this number, 32,018, or 1,583 per 1,000 of mean strength, were admitted for disease, and 5,055, or 250 per 1,000 of mean strength, for wounds, injuries, and accidents, making the ratio per 1,000 of mean strength about equal to the average for the preceding ten years.

The average number constantly on sick report during the year was 1,003, or 50 per 1,000 of mean strength; an increase of 3 per 1,000 over the previous year, and 5 per 1,000 over the average decennial rate.

Of these, 809, or 40 per 1,000, were constantly under treatment for disease, and 194, or 10 per 1,000 of strength, for wounds, accidents, and injuries.

The total number of deaths from all causes reported among white troops was 250, or 12 per 1,000 of mean strength; an increase of 2 per 1,000 over the rate for the previous year, and a decrease of .9 per 1,000 below the average of the preceding decade.

Of all deaths reported 178, or 9 per 1,000 of mean strength, were from the results of disease, and 72, or 3 per 1,000, for the results of injuries, the increase of death-rate having occurred among cases of disease alone.

The proportion of deaths from all causes to cases treated was 1 to 148; while for the previous year the proportion was 1 to 176, and for ten years preceding 1 to 142.

The total number of white soldiers reported to have been discharged the service for disability was 838, or 41 per 1,000 of mean strength; an increase of 8 per 1,000 over the average of discharges for the decade, and 3 per 1,000 greater than the rate for colored troops.

Of these, 726, or 35 per 1,000, were for the results of disease, and 112, or 6 per 1,000, for the results of wounds and injuries.

Among the colored troops, the total number of cases of all kinds reported was 4,356, or 1,887 per 1,000 of mean strength; a decrease of 75 per 1,000 from the rate reported for the previous year, and a slight increase over the average for the preceding decade.

Of these, 3,597, or 1,558 per 1,000 of mean strength, were cases of disease, which is lower by 62 per 1,000 than the rate of cases of disease for the previous year; 28 per 1,000 lower than the decennial rate, and 25 per 1,000 lower than that for white troops during the year.

Of wounds, accidents, and injuries there were 759 cases, or 329 per 1,000, equivalent to a rate which, though less than that for the previous year, is still 78 per 1,000 greater than the decennial rate of injuries.

The average number constantly on sick report was 101, or 44 per 1,000 of mean strength; of which 75, or 33 per 1,000, were under treatment for various diseases, and 26, or 11 per 1,000, for injuries.

The total number of deaths of colored soldiers from all causes was 22, or 10 per 1,000 of mean strength; which is 1 per 1,000 lower than the death-rate for the previous year, and 6 per 1,000 lower than the average decennial rate.

It is interesting to note that not only is this the lowest death-rate yet reached among colored troops since their organization, but it is the first time that the rate has fallen lower than that for white troops, the usual average difference being 3.2 per 1,000 of mean strength in favor of the latter class.

Of the deaths reported, 15, or 7 per 1,000 of strength, were from disease, and 7, or 3 per 1,000, were from injuries.

The deaths from all causes to cases treated was 1 to 198; while, for the previous year, it was 1 to 180, and for the preceding decade 1 to 117.

The total number of colored soldiers reported to have been discharged for disability was 88, or 38 per 1,000 of mean strength; a decrease of 4 per 1,000 from the rate last reported, and an increase of 10 per 1,000 over the decennial rate.

Of these, 68, or 29 per 1,000, were discharged for disease, and 20, or 9 per 1,000, for the results of wounds and injuries; a rate for the latter class 3 per 1,000 greater than for the previous year, and 3 per 1,000 greater than that for white troops for the year under consideration.

An average of 210 Indian scouts is reported as employed during the year. Of these, 44, or 209 per 1,000, were admitted to sick report—for disease, 33 cases; for wounds, 11 cases. There were no deaths.

Admissions to sick report during the year are exhibited in tabular form in Appendix A, with ratios for each disease, calculated upon the total number of admissions reported, also upon the mean strength of the two classes of troops, and for the aggregate force returned.

Among the white troops, diseases of the respiratory organs stand first in numerical importance. Of these, 64 per cent. were catarrhs of the upper air-passages; a lower rate than for the preceding year. Among colored troops, the respiratory group stands third on the list, with an admission-rate of 20 per 1,000 of mean strength less than the rate for white troops. By reference to Appendix B, it will be seen that the death-rate for colored troops, from respiratory diseases, is more than

four times greater than for white troops, and the proportion of deaths to cases is equally high, the deaths being wholly from pneumonia.

While wounds, injuries, and accidents stand second on the list among white troops, they are first in numerical importance among the colored, the admission rate being 329 per 1,000 of mean strength, 13 per 1,000 below the rate of the preceding year, and 79 per 1,000 above the rate for white troops. The death rate for injuries was lower for colored troops than for white, except in gunshot wounds.

The admission rate for malarial diseases, which, in the aggregate, constitute 11 per cent. of all diseases and injuries reported, is 10 per 1,000 lower than for the previous year. Contrary to accepted opinion, malarial diseases have shown themselves to be more frequent among the blacks than the whites, the admission rate for the former being 62 per 1,000 higher for this year, and 14 per 1,000 higher for the previous year. It is believed that this apparent increase can be explained by the fact that all regiments of colored troops, except one, are, and have been, serving for many years in an especially malarious region—the Indian Territory, the State of Texas, and the southern part of Kansas, together with the States of Missouri and Arkansas; an area which, while it contains less than 20 per cent. of the strength of the Army, furnishes nearly 50 per cent. of all cases of malarial diseases reported.

Comparative ratios for white and colored troops who have been stationed together for an irregular series of years, between 1876 and 1880, inclusive, within the region indicated, show, as a rule, a greater prevalence of malarial diseases among whites; but they also show that departures from this rule are of occasional occurrence, and are usually due to explainable causes. The average difference between the two races for malarial diseases was, during the year noted, 76 per 1,000 of mean strength in favor of the colored race.

The colored troops present a higher rate than white troops for syphilitic and venereal disease. On the other hand, their comparative freedom from intemperance continues to be of interest.

With regard to consumption, while there appears to have been no material difference between the two races in the rate of admission during the year, the combined rate of loss by deaths and discharges has been somewhat in favor of the white troops.

TYPHOID FEVER—ITS RATE OF OCCURRENCE AMONG WHITE AND COLORED TROOPS.

The number of cases of typhoid fever reported as having occurred among white troops during the year is 214, which is equivalent to 11 per 1,000 of mean strength, and 6 per cent. of all cases of disease and injuries returned. There were 8 cases also reported as having occurred among the colored troops, which is equal to a rate of 3 per 1,000 of mean strength, and 2 per cent. of diseases returned for this class.

Among white troops, there occurred 35 deaths from this disease, or 14 per cent. of all causes of death, and among colored troops 3, or 13.6 per cent. The ratio of deaths to cases in this disease was 16.4 per cent. among whites and 37.5 per cent. among colored. But one man was discharged from service from this cause. From this, it may be concluded that where recovery took place patients usually became fully able to discharge all the duties of a soldier.

From 1867 to 1883, 1,499 cases of typhoid fever have been reported in an annual mean strength of 26,229 white troops, giving an annual average of 94, or 3.58 cases, per 1,000. The rate for the past year, as

already shown, was 11 per 1,000 of strength, which is not only more than three times higher than the average annual occurrence for the previous sixteen years, but is double the highest rate recorded since the war. The ratio of typhoid fever to the annual average of all other causes of physical impairment, for the period of sixteen years, is 1.7 per 1,000, while for the past year, the rate was 5.77 per 1,000. Among colored troops, during the same period, 118 cases of typhoid fever are reported, which is equivalent to an annual rate of 2.59 per 1,000 of strength, and 1.2 per 1,000 of all diseases and injuries. The rate for the past year being only 3 per 1,000 of strength, and but 2 per 1,000 of cases, the departure from the annual mean of occurrence is not so great as in the case of white troops.

As large as the rate of increase has been in the number of men attacked by typhoid fever, it is gratifying to report that a comparison of the rate of fatal cases for the year with the rate for sixteen years prior to 1883 exhibits a decrease from 21 per cent. to a little over 16 per cent. for white troops, and from 43 per cent. to about 37 per cent. for colored troops.

The rate of occurrence of typhoid fever among white troops will be seen to be one-third greater than among the colored; while, on the other hand, the rate of mortality to cases among the latter is nearly double that of the former. A full explanation of the causes leading to this pronounced difference between the two races, as well as the causes of decrease in the rate of fatality in both races, though of much interest, cannot be discussed within the limits of this report.

Classifying the cases of typhoid fever according to the various arms of the service, the artillery, which formed 12.6 per cent. of the combatant force, furnished but 7 cases, or 2.5 per 1,000 of strength, all occurring in men of more than one year's service.

From the infantry, which comprised 52 per cent. of the combatant force, there are reported 53 cases, or over 24 per cent., making the ratio of cases to strength for this arm 4.6 per 1,000. Of these, 20 cases occurred in the infantry recruits of less than six months' service, and 33 in soldiers of from one to twelve years' service.

From the cavalry, which numbered less than 34 per cent. of the combatant force for the year, an aggregate of 145 cases was reported, or 19 per 1,000 of strength, and over 65 per cent. of all cases; 121, or 57 per cent., occurred in young cavalry recruits of less than six months' service; 14, or 7 per cent., in men between five and eleven months' service, and only 8, or 4 per cent., in men of over one year's service.

The mortality from typhoid fever for the artillery was 2 cases, or .72 per 1,000 of strength; for the infantry, including recruits, 9 cases, or .78 per 1,000 of strength; while for the cavalry, including recruits, 20 cases, or 2.7 per 1,000 of strength. From these figures it will be seen that the cavalry has suffered from this disease largely in excess of other arms, its ratio of impairment being over seven times greater than that of the artillery, and nearly five times greater than that of the infantry, while its death-rate from this cause was more than three times greater than either of the others.

Geographical distribution of typhoid fever.—Typhoid fever is essentially a disease dependent upon local causes for its origin and propagation, and is intimately connected with impure water, defective sewerage, polluted soil, and overcrowded dwellings. It is, in fact, a preventable filth-disease, and its unprecedented increase among United States troops during the past year requires especial consideration.

The military stations which may be regarded as centers of this disease

are, first, the cavalry recruiting depot at Jefferson Barracks, near Saint Louis, Mo., with 56 cases and 9 deaths for the year; second, Fort Douglas, Utah, with 20 cases and 2 deaths; third, Fort Bayard, N. Mex., with 14 cases and 2 deaths; fourth, Fort Custer, Mont., with 12 cases and 1 death; fifth, Fort Apache, Ariz., with 10 cases and 3 deaths; sixth, Fort Grant, Ariz., with 10 cases and 1 death; seventh, Fort McDowell, Ariz., with 6 cases and 1 death. Twenty-seven other posts on and west of the Mississippi River have furnished from 1 to 5 cases each.

East of the Mississippi River the disease has appeared at nine stations, viz, Columbus Barracks, Ohio, 5 cases and 1 death; David's Island, New York Harbor, 5 cases and 1 death; Saint Augustine, Fla., 4 cases; Fort Wayne, Mich., 2 cases; and Fort Warren, Mass., Fort Snelling, Minn., Little Rock Barracks, Ark., Jackson Barracks, La., and West Point, N. Y., each 1 case.

During the month of September, 1883, there were received at Fort Grant, Ariz., for distribution to other posts, two detachments of cavalry recruits from Jefferson Barracks, Mo., numbering, in the aggregate, 99 men. From these detachments 9 men were left at this post sick with typhoid fever, all of them being in the earlier stages of the disease on their arrival. Of these cases, 1 died in November, and no new cases have been reported up to the present date.

The sanitary condition of this post, as shown by the annual report of the medical officer, December 31, 1883, is good. The water-supply for washing purposes is drawn from wells near the company barrack, while that for drinking and cooking is taken from a small mountain stream near the post. The wells, which were at one time used for drinking purposes, are reported to be at a sufficient distance from the sinks to avoid sewage contamination, and are protected from inflow of surface drainage by curbs. The water for the post is distributed by means of a wagon, and is stored in barrels at the several quarters. Pit privies are used, and are in as good condition as such objectionable makeshifts usually are. When filled, new ones are dug and the old ones covered with earth. No extra sanitary measures are reported during the year, dependence being placed upon the usual daily police of the post to protect the station against recurrence of the disease.

The command at Fort Apache, Ariz., received during the same month 47 young cavalry recruits from Jefferson Barracks, Mo., most of whom had passed through Fort Grant en route to their stations. Of these, 10 were admitted to sick report for typhoid fever during the month, and 6 of them within two days after their arrival at the station; 3 deaths resulted. No cases were reported during 1883 prior to this date, and none have occurred since. The sanitary condition of this post is fair. The cubic air-space per man within the barracks is 800 cubic feet. The ventilation is satisfactory. The water-supply, of good quality and sufficient in quantity, is obtained from the White River, and stored in a reservoir, and thence distributed by pipes to all buildings except the hospital. The sinks, or pit privies, are located under a hill some 270 yards south of the quarters, and are well policed and treated with quicklime and other disinfectants regularly.

At Fort Custer, Mont., 12 cases of typhoid fever were reported during the year. The medical officer states that the water-supply is obtained from the Bighorn River, and is sufficient in quantity, although the quality is not good, but in what respect is not shown. There are no sewers at the post, natural surface drainage being depended on. The 12 cases of typhoid fever which occurred during September and

October, 1883, may be considered of exotic origin, and not incident to the sanitary condition of the post, since all of them occurred among young cavalry recruits, of six months' service or less, who had but recently arrived at that station from Jefferson Barracks, Mo. The last case occurred in October, 1883.

At Fort Bayard, N. Mex., 14 cases and 2 deaths from typhoid fever are reported among young recruits who arrived from Jefferson Barracks in August, 1883.

In his annual sanitary report for the year ending December 31, 1883, the medical officer states that the water-supply is obtained from a spring east of the post, is well protected from drainage, and, though slightly alkaline, the water is of good quality and sufficient quantity. The surface drainage of the post is excellent. The barracks are comparatively new, and there is no evidence of overcrowding. During the prevalence of typhoid fever, as an extra sanitary measure, a ditch was cut around the source of water-supply, and filled with a layer of sand and charcoal, and the whole inclosed by a fence. The systematic disinfection of excreta was also practiced.

At Fort Sidney, Nebr., the medical officer reports, under date of December 31, 1883:

During the year there have been under treatment in the post hospital 6 cases of typhoid fever, 4 of which occurred in recruits from Jefferson Barracks, Mo., 1 originated at the post, and 1 after the soldier's return from furlough.

In a previous report from this station the medical officer states:

All cases of serious illness at the post during the month (June, 1883) have occurred among the recruits received on the 31st ultimo. During the past four years in which I have been on duty with cavalry troops in this department not one of the detachments of recruits received from Jefferson Barracks, which have come under my observation, but have contained a number of men either suffering at the time of arrival or taken down soon after with fevers, typhoid, remittent, and intermittent, contracted, in the majority of cases, I am convinced, at Jefferson Barracks.

At Fort Sidney the quarters for the troops are one-story frame buildings, located on dry, sandy soil, affording to the infantry companies 50 superficial feet and 850 cubic feet of space per man, and to the cavalry companies 50 superficial and 655 cubic feet per man. The sinks are ordinary pits, covered with earth when filled and new ones dug. The water-supply is drawn from a well by a steam pump, is stored in a tank, and distributed through iron pipes. It is stated to be slightly hard, but of very good quality. It is further stated that there is no possible contamination of the water-supply from either drainage or sewage, but as the troops have access to water flowing in ditches through the post it is not impossible that cases of typhoid and typho-malarial fever may have originated from this cause.

From Fort Meade, Dak., the medical officer, in reporting, during September, 1883, cases of typho-malarial fever, states:

These cases occurred almost without exception among a number of recruits received at this post from Jefferson Barracks, Mo., during the latter part of August. The men stated that they had been sick with the fever before they left there.

From Fort Reno, Ind. T., the medical officer, in reporting a fatal case of typhoid fever, remarks, in December, 1883:

This is the third recruit who has died at this post of typhoid fever during the present year, who had just joined from Jefferson Barracks.

From Fort McKinney, Wyo., the post surgeon reports, for July, 1883, the arrival of the headquarters staff and band of the Fifth United States Cavalry, and states that "with them were 31 recruits who had left Saint Louis July 11, reaching Fort Sidney July 13, leaving 2 men

sick, 1 with typhoid fever. Shortly after the command left Fort D. A. Russell other cases of sickness arose among the recruits, which necessitated the dispatch of a medical officer to meet the detachment, and among them were 4 cases of typhoid and 3 of remittent fever." He further states that "all cases of fever of any type borne upon the report of Fort McKinney have arisen among recruits so received, and probably from causes arising at Saint Louis, Mo."

The space allotted to this report is insufficient to exhibit in detail the large amount of accumulated evidence as to the wide dissemination of typhoid and typho-malarial fevers from the recruiting depot at Jefferson Barracks, where, during one year, over 3,000 cavalry recruits have been subjected to filth poisoning and then shipped to distant frontier posts.

The causes which have led to this condition of affairs, and the remedies therefor, have already been reported in full to the Adjutant-General of the Army, under date of August 6, 1883, and also in a special report of Surgeon D. L. Huntington, U. S. A., dated May 5, 1884, in which the causes of disease at this post may be summed up as falling under the heads of defective drainage and sewerage, bad ventilation, overcrowding, and probably impure drinking water.

In addition to the foregoing stations, Fort Douglas, Utah, has proved to be a center of typhoid contagion. With the exceptions of a few cases prior to 1875, this post has been exempt from the disease until July, 1883; since this date 20 cases have been reported, with 2 deaths, a rate of mortality of 10 per cent. to cases treated. There is no evidence that the disease was imported from any other post, but may have been acquired, as suggested by the post surgeon, by sleeping in Salt Lake City, from impure drinking water, or from defective sewerage.

At Columbus Barracks, Ohio, a depot for infantry recruits, 1 case of typhoid fever occurred in May, and 4 in July, 1883, making a total of 5 cases, only 1 of which resulted fatally. No other cases are reported to date. Over 1,800 recruits have passed through this depot during the year, and no well authenticated instance of their conveying the germs of this disease to other stations has come to the knowledge of this office.

From the recruiting depot at David's Island, New York Harbor, 5 cases were reported during the year, with 1 death. The exact origin of these was not determined by the medical officer at the date of his report. Twenty-seven hundred recruits also passed through this depot during the year without distribution of typhoid fever to other stations.

YELLOW FEVER.

Up to August 11, 1883, there were no cases of yellow fever, except at quarantine, within the limits of the United States. At this date the disease appeared among the naval officers and United States marines at Pensacola navy-yard, and continued its ravages until October 15, when the last case was reported as convalescent.

June 30 the garrison at Fort Barrancas, consisting of Batteries B, E, and K, Third United States Artillery, was removed to summer camp near Atlanta, Ga., and did not return until December 12, 1883. The small detachment remaining at Barrancas escaped infection, and no cases occurred at that post.

The post of Fort Brown, Tex., where yellow fever prevailed in 1882, was also free from the disease, although cases of suspected yellow fever, of a mild type, were reported from time to time as existing in the town of Matamoros.

Although the disease was very prevalent in the adjoining Mexican State of Sonora during the year, only one case is reported as having

occurred among United States troops stationed in Arizona. A deserter from the First United States Infantry, engaged in nursing yellow fever patients in the Mexican town of Hermosillo, returned to the post of Huachuca, Ariz., and, on his arrival, September 30, was prostrated with the disease. His case was at once recognized, and the patient placed in quarantine about two miles from the post; death took place October 5. No other cases occurred.

RECRUITING OF THE ARMY.

The number of recruits reported to have been examined by Army medical officers and private physicians during the year is 6,263 white, 453 colored, and 239 Indian scouts. The total number of rejections was for white, 2,041, or 326 per 1,000 of the number examined; and for colored 146 or 322 per 1,000; Indian scouts, none.

On primary inspection at military posts and at various recruiting rendezvous, 1,897 white and 129 colored were rejected. On secondary examination at recruiting depots 144 white and 17 colored were found disqualified.

Appendix C exhibits in tabular form the number of rejections and causes therefor, together with the rate per 1,000 for each disease and group reported.

WORK PERFORMED IN THE RECORD AND PENSION DIVISION.

The total number of official demands upon this division during the year, for information as to the cause of death in the case of deceased soldiers and for the hospital record of invalids, was 65,897; being 53,683 less than the number of similar applications during the previous year. Including the 32,532 applications remaining unanswered at the end of the last fiscal year, the total number of cases to be disposed of was 98,429.

Of the new cases, 55,849 were received from the Commissioner of Pensions, 9,488 from the Adjutant-General of the Army, and 560 from miscellaneous sources.

Replies have been furnished to the proper authorities in 92,148 cases, of which 85,940 were to the Commissioner of Pensions, 5,583 to the Adjutant-General, and 625 to miscellaneous applicants; leaving 6,281 cases to be searched and reported on. In addition to the number of reports above stated as furnished the Commissioner of Pensions, 1,470 have been prepared and furnished the same officer by the administrative and miscellaneous branch of the office, making a total of 87,410 reports in pension cases furnished during the year.

It is gratifying to record a large reduction, not only in the total number of cases remaining on hand—from 32,532 at the end of the fiscal year 1882-'83, to 6,281 cases at the end of the fiscal year 1883-'84—but also a reduction of the delay of cases in this office from an average of over five months during the year 1882-'83 to an average of fifty days at the close of this year.

This delay would have been even farther lessened were it not for the large number of calls made upon this division for special and immediate action in selected cases, all of which have unavoidably served to check the speed with which cases in regular order were disposed of.

As stated in my previous report, a full and economical employment of the force assigned to this division necessitated a constant working margin of fully 10,000 cases, and when the number remaining on hand should fall below that figure a proportionate reduction would be required in the number of searchers, and the clerks so relieved would be transferred to the work of copying worn and mutilated records.

The unavoidable wear and tear of the bound and unbound manuscript records of this office, incident to continual handling, and particularly in searching for evidence of hospital treatment in over 150,000 cases received since September, 1882, has resulted in the steady accumulation of torn and worn-out folios, threatening a serious loss of record evidence unless the work of the copyist is made to keep pace with the rapid disintegration now going on.

There were on hand June 30, 1883, 20,605 folios, containing 740,072 entries of medical histories requiring immediate transcribing; during the past fiscal year 45,975 additional folios have become worn out and unfit for further use, making a total of 66,580 folios needing immediate attention.

To meet this pressing demand, an increase from time to time has been made in the number of copyists until the force engaged upon this work was gradually increased to sixty-four men at the close of the fiscal year, making an average of thirty-three men for the year.

The work has been pushed with the greatest rapidity consistent with accuracy, with the result of 19,378 copied folios for the year, and the preservation of 704,808 separate medical histories.

Notwithstanding the large amount of work accomplished, over 47,000 folios, containing 1,825,000 entries, still remain to be cared for, and probably the necessity for this work will continue until the search of the records is practically terminated by the adjustment of all pension claims referring to the war.

In addition to the work above reported, the following current work has been performed in this division during the year:

There have been received from the medical officers in charge of the various posts and stations 2,099 monthly reports of sick and wounded. These have been examined and consolidated on statistical sheets for reference, and the deaths and discharges entered in alphabetical registers.

In addition to these regular reports, 60 special reports of interesting medical cases occurring during the year have been received.

The number of reports of examination of recruits received was 1,053, and are tabulated in Appendix C.

In the subdivision of surgical records, 1,839 surgical reports were received from medical officers; 1,597 were reports of injuries and of surgical operations, 109 special reports of interesting cases, and 133 of a miscellaneous character.

The work of preparing index registers of the wounded in the war of the rebellion, arranged alphabetically and by States, has been continued, and 55,000 names have been entered during the year.

SUBDIVISION OF SURGICAL RECORDS.

In class V of the monthly reports of sick and wounded, 5,814 cases of wounds, accidents, and injuries were recorded during the year in a mean strength of the Army of 22,539. The deaths from wounds or other violent causes numbered 79, being a proportion of 3.5 per 1,000 of mean strength.

Appendix B exhibits in tabular form the specific nature of the various causes of death from injuries, with ratios for white and colored troops separately, covering also mean strength of command and total number of cases reported.

No casualties from actual warfare are reported, the year having been one of exceptional peace, and the first for many years not marked by losses to United States troops from Indian hostilities.

Increased interest in rifle practice has been followed by a number of accidents; the returns of this office showing for the year 9 cases of shot wounds received at the firing range, with 3 deaths. In addition to these, 47 injuries from explosions of rifle cartridges occurred while soldiers were preparing ammunition to be used in target practice. In 24 instances the hand or forearm was injured, in 13 the fingers, in 9 the face, and in 1 the skull, which was penetrated by a piece of brass shell, death resulting from cerebral abscess. In 9 cases the soldiers were permanently disabled and discharged the service because of the injuries received.

There were 179 surgical operations performed during the year; 96 consequent upon injuries and 83 for the relief of surgical diseases. Of the former 56 were amputations, 3 were cases of trephining for compound fracture of the skull, 1 fatal; the remainder were miscellaneous operations.

The following cases were reported as followed by recovery; 1 primary amputation of the thigh, lower third; 2 of the leg, 3 of the arm, 24 of the fingers, and 2 of the toes, together with 8 intermediary and 7 secondary amputations of the fingers, 3 intermediary and 4 secondary amputations of the toes. An intermediary amputation at the hip-joint for uncontrollable hemorrhage from a diffuse aneurism of the profunda femoris, the result of gunshot, terminated fatally.

Operative procedures in shot fractures were called for in 24 cases; these consisted of amputations solely, no excisions being reported. All the operations were followed by recovery.

Of the miscellaneous operations for shot wounds 1 case of ligature of the femoral artery was reported, which preceded by a few days the intermediary amputation at the hip-joint just noted.

Numerical summary of 140 cases of shot wounds occurring during the year, with location and character of wounds, cause of injury, treatment, and ratio of fatality to 1,000 cases.

Location and character of wound.	Cases.	Cause of injury.					Treatment by—		Result.			Ratio of fatality.
		Bird shot.	Explosion of cartridge shell.	Pistol ball.	Rifle or carbine ball.	Other or undetermined causes.	Operation.	Conservation.	Duty.	Discharge.	Death.	
Cranium, fracture	1		1					1			1	1,000.
Scalp, flesh	2	1			1			2				.0
Face	11	1	9	1				11	9	2		.0
Neck	2				2			2	1	1		.0
Chest, flesh	2	1				1		2	2			.0
Abdomen, penetrating	3			2	1			3		1	2	666.6
Abdomen, flesh	1					1		1	1			.0
Clavicle, fracture	1				1			1	1			.0
Humerus, fracture	3			1	1			2		2		.0
Radius and ulna, fracture	4				3	1	1	3	1	3		.0
Hand fingers, fracture	20	1	18	8	7	1	10	11	17	12	*1	.0
Femur, fracture	2			1		1		2	1	1		.0
Knee joint, fracture	1				1		1			1		.0
Tibia and fibula, fracture	3	1		2			1	2	1	2		.0
Foot, toes, fracture	4			1	3		2	2	3	1		.0
Upper extremities, flesh	56	2	24	15	14	1		56	52	4		.0
Lower extremities, flesh	14	3		5	5	1	1	13	13		†1	71.4
Not stated	1			1				1	1			.0
Aggregates	140	10	47	37	39	7	25	115	105	30	4	28.5

NOTE.—Immediate deaths by homicide, suicide, or accidental shooting are not included in this summary.

* Case of fractured fingers by pistol ball, death from inter-current typhoid fever.

† Case of amputation at hip-joint, fatal. Remainder of the cases operated upon recovered.

Tabular summary showing region of injury in thirty-three cases violent deaths from shot wounds during the year.

Cause of death.	Anatomical location.						
	Cases.	Head.	Face.	Neck.	Chest.	Abdomen.	Spine.
Homicide	7	2	—	—	1	2	1
Suicide	17	2	—	—	5	2	—
Accidental shooting	9	2	1	2	3	1	—
Aggregates	33	13	1	2	9	5	1

Operations for the relief of disease were performed in 83 cases, 79 of which were followed by the recovery of the patient, 2 resulted fatally, and the result of two is unknown. Operations for the removal of hæmorrhoids and the cure of fistulæ are noted in 25 cases, 9 for the relief of urethral strictures, and 12 for miscellaneous affections of the genitalia.

Excision of tumors was performed 18 times, and a successful case of cesophagotomy for removal of foreign body is also reported.

Reports show that Esmarch's, or the bloodless, method of operation was employed twice only; antiseptics during operations were used five times and twice by spray. Simple evaporating lotions, or dry absorbent dressings, were employed after operations in 65 cases, carbolized lotions, or oily mixtures of this agent, in 39 cases; the Lister dressing proper in 6; iodoform in 8, and corrosive sublimate in 2 cases. In 17 cases the antiseptic agent is not stated. Salicylic acid seems to have fallen into disfavor, having been used but once after operation.

Conservative treatment of shot injuries was adopted in 22 cases, the results being favorable in all but 1—the penetrating wound of the cranium before noted—in which death followed, from cerebral abscess, on the forty-first day.

The treatment of flesh wounds, whether gunshot or from other causes, was usually confined to simple or antiseptic dressings.

There were three cases of traumatic erysipelas reported, all of which recovered; treatment not specially noted. Of pyæmia two fatal cases are reported, one accompanying a laceration of the femoral vein, and the other the division of a urethral stricture. No cases of tetanus, either traumatic or idiopathic, are reported during the year.

ARMY MEDICAL MUSEUM.

In the early days of the Museum collection surgical specimens, especially those illustrating shot injuries, largely predominated, while specimens illustrating general diseases were comparatively few; it was therefore decided to group these specimens in two separate sections—a surgical and a medical section. With the growth of the medical section during subsequent years it became inexpedient as well as inconvenient to continue this separation, and, during the last year the two sections have been consolidated into one—a pathological section.

At the close of the fiscal year ending June 30, 1883, there were 7,265 specimens in the surgical and 1,705 in the medical section. To these have been added during the year 144 new specimens, making a total of 9,114 specimens now in the pathological section.

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LIBRARY.

The additions to the library during the past year include about 4,000 volumes and 5,500 pamphlets.

By actual count at the end of the fiscal year the library contained 65,738 volumes and 86,503 pamphlets. These include 22,050 volumes of journals and 3,229 volumes of transactions. Of the pamphlets, 38,583 are medical theses. Among the "volumes" are reckoned 1,385 bound volumes of theses, 1,149 bound volumes of pamphlets.

The printing of volume 5 of the Index Catalogue has been completed and the edition distributed. This volume includes from "Flaccus" to "Hearth." The manuscript of volume 6 is in an advanced state of preparation, and the first part of it is now going to press.

The increase in the appropriation has made it possible to arrange to have every new medical work from every country sent promptly to the library, as recommended in the last annual report, and henceforward it is hoped that those who consult this collection will find that it contains the latest information on the subject.

The number of those using the library is steadily increasing—and the friendly interest which is manifested in its progress and work by physicians in all parts of the country is good evidence that it is appreciated by the profession, and is meeting the many demands made upon it in a fairly satisfactory manner.

MEDICAL AND SURGICAL HISTORY OF THE WAR.

Five volumes of the Medical and Surgical History of the War of the Rebellion (three surgical and two medical) have been completed. The publication of the third medical volume, the last of the series, has been delayed by reason of the long illness of Surgeon J. J. Woodward, lately deceased.

The completion of this volume has been placed in the hands of Surgeon Charles Smart, and it is probable that it will be ready for issue in about one year.

FIRE-PROOF BUILDING FOR ARMY MEDICAL MUSEUM AND LIBRARY OF THE SURGEON-GENERAL'S OFFICE.

During the past session of Congress a bill to provide for a suitable fire-proof building for the accommodation of the Army Medical Museum and Library of the Surgeon-General's Office was reported to and passed by the Senate. A similar bill was reported favorably by the Committee on Public Buildings and Grounds to the House of Representatives, but was not reached in the order of business, and is still pending before the House.

It is hoped that during the coming session the necessary legislation to provide for this long and seriously felt want may be completed, that immediate steps may be taken to secure a safe deposit for these valuable collections, now in constant peril from the dangers which surround the present unsuitable building.

PROVIDENCE HOSPITAL.

Under the provisions of the act of March 3, 1883, making appropriation of \$15,000 for the "care, support, and medical treatment of seventy-five transient paupers, medical and surgical patients, in the city of Washington, under a contract to be made with such institution as the Surgeon-General of the Army may select," a contract was entered into with Providence Hospital, and was fulfilled by that institution to my entire satisfaction and without complaint on the part of the persons sent

there for care and treatment. The following is a statement of the amount of relief afforded under the appropriation :

Number of patients in hospital July 1, 1883	79
Number of patients admitted during the year.....	596
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Total number of patients treated	675
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Average number of patients admitted per month.....	50
Number remaining in hospital June 30, 1884.....	80
Total number of days' treatment afforded.....	29,576
Average number of days' treatment per patient	43.81
Average number of patients treated per day	80.80
Longest term of treatment.....days..	366
Shortest term of treatment	1
Number of patients in hospital during the whole year.....	15

The patients included in the statement represent all classes of diseases, acute and chronic, except those of a contagious nature. The fifteen patients shown as having remained in hospital during the whole year are paupers, incurable, without home or friends.

HOSPITAL STEWARDS.

I have the honor to invite your attention to the urgent claims of the hospital stewards of the Army to be placed, as regards pay and allowances, in a position commensurate with the important nature of their duties.

Believing that their services may be rendered more efficient and valuable if the qualifications requisite to constitute trustworthy and intelligent non-commissioned officers are more substantially recognized, I would respectfully recommend the enactment of a bill providing as follows :

That the hospital stewards of the United States Army shall be composed of two classes: those appointed by the Secretary of War and permanently attached to the Medical Department, as now provided by law, to constitute the first-class, and those appointed by the written order of a commanding officer upon the recommendation of a medical officer to constitute the second class.

That the monthly pay of hospital stewards of the first class be fixed at \$50, and that of the second class at \$25 ; that each class shall receive the increase for continuous service now allowed by law ; and that the allowances of quarters, fuel, rations, and clothing, &c., shall be as now, or as may hereafter be, fixed by law or regulations.

That the number of hospital stewards of the first class shall be determined by the Secretary of War from time to time, as the necessities of the service may require, upon the recommendation of the Surgeon-General; and that no person shall be appointed to that position unless he shall have passed a satisfactory examination as to his fitness and shall have proved his ability to perform its duties, nor shall any person be designated for examination except upon the written authority of the Surgeon-General.

MISCELLANEOUS.

The requirements of the Army as regards medical officers during the past year have been as follows :

Number of permanent posts	134
Number of temporary posts and substations	20
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Total	154
Number of military expeditions in the field during the year	3

The services of 3 medical officers were required with these expeditions; there were also 36 medical officers reported to this office as hav-

ing been on duty with scouting parties and on other field service during the year.

The Army Medical Examining Board convened in New York City on the 1st of March, 1883, was dissolved June 14, 1884, by order from the War Department. The following is a recapitulation of the work performed by the Board during its session:

Number of assistant surgeons examined for promotion	13
	==
Number of candidates for appointment in the Medical Corps invited to appear for examination	74
Number of candidates found qualified.....	22
Number of candidates rejected.....	14
Number of candidates who withdrew after partial examination	29
	—
Total number examined	65
Number of candidates who failed to appear for examination	3
Number of candidates who declined to appear for examination.....	6
	—
Number invited but not examined	9

The names of the approved candidates have been submitted to the Secretary of War for appointment as assistant surgeons, and seventeen have thus far received such appointment; one candidate approved by a previous examining board has also been appointed, leaving five to be appointed as vacancies may occur.

At the date of the last report of the Surgeon-General there were fourteen vacancies in the grade of assistant surgeon in the Medical Corps of the Army. Since the date of that report Brig. Gen. Charles H. Crane, Surgeon-General, one surgeon with the rank of major, and one surgeon on the retired list, have died; one assistant surgeon has resigned, and one assistant medical purveyor, with the rank of lieutenant-colonel, has been retired.

Col. Robert Murray, assistant surgeon-general, was appointed Surgeon-General, with the rank of brigadier-general, November 23, 1883, vice Crane, deceased; Lieut. Col. Glover Perin was appointed assistant surgeon-general, with the rank of colonel, July 2, 1884, vice Murray, appointed Surgeon-General; one surgeon, with the rank of major, has been promoted assistant medical purveyor, with the rank of lieutenant-colonel; one surgeon, with the rank of major, has been promoted surgeon, with the rank of lieutenant-colonel; and three assistant surgeons, with the rank of captain, have been promoted surgeons, with the rank of major; eighteen appointments in the grade of assistant surgeon have also been made.

There are no vacancies in the Medical Corps of the Army.

There are nine medical officers on sick leave of absence; of these, four have been found incapacitated for active service and recommended for retirement by Army Retiring Boards, viz: Assistant Surgeon Thomas F. Azpell, who has been on sick leave since April 7, 1877; James W. Buell, who has been on sick leave since August 23, 1877; William R. Steinmetz, who has been on sick leave since September 16, 1878, and Assistant Surgeon J. V. De Hanne, who has been on sick leave since June 22, 1879. Three others are regarded as permanently disabled. One surgeon, with the rank of colonel, is at his home awaiting retirement (under the clause of the act approved June 30, 1882, providing and directing that "when an officer is sixty-four years of age he shall be retired from active service and placed on the retired list"), and seven medical officers are on ordinary leaves of absence; leaving 174 medical officers for duty.

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R. MURRAY, Surgeon-General, U. S. A.

REPORT OF THE PAYMASTER-GENERAL.

PAYMASTER-GENERAL'S OFFICE,
Washington, D. C., October 14, 1884.

SIR: I have the honor to submit my annual report of the transactions of the Pay Department of the Army for the year ending June 30, 1884.

The tabular statements herewith show in detail the fiscal operations of the Department for that year, summarily stated as follows:

RECEIPTS AND DISBURSEMENTS DURING THE FISCAL YEAR ENDING
JUNE 30, 1884.

Receipts:

Balance in hands of paymasters July 1, 1883	\$1,452,216 30
Amount received from the Treasury	12,963,568 03
Amount received from soldiers' deposits	389,267 55
Amount received from paymasters' collections	375,108 98

Total to be accounted for..... 15,180,160 86

Accounted for as follows:

Disbursements:

On pay-rolls:

To the Army.....	\$12,231,191 64
To the Signal Service.....	192,666 81
To the Military Academy.....	196,919 98

On Treasury certificates:

To the Army.....	203,437 98
To the Signal Service.....	112 54
To volunteers	426,421 20

Total.....	13,250,750 09
Surplus funds deposited in Treasury	219,631 34
Paymasters' collections deposited in Treasury.....	375,108 98
Balance in hands of paymasters June 30, 1884.....	1,334,670 45

Total accounted for 15,180,160 86

The bi-monthly payments to the troops have been made during the past year with regularity and promptness.

The officers of the department have been zealous and energetic in the performance of their duties.

Since my last annual report, one paymaster, Major Bridgman, has been retired, he having attained the age of sixty-four years, and one, Major Brodhead, has died. In these the department has lost two officers of strict integrity, who have served the Government long and faithfully.

By operation of the act of July 5, 1884, an additional deputy paymaster-general was added to this department, by the promotion of the senior major.

The laws now in force requiring disbursing officers to place the public funds intrusted to them for disbursement in depositories, and draw for the same only as they may be required to make lawful payments, together with the system of reports from both the officers and depositories, form a complete system of security and accountability.

It was with much regret, therefore, that notice was received during the past year of the discontinuance of the depositories at Tucson, Ariz., and San Antonio, Tex. They were of very great service, not only to

the paymasters stationed in their vicinity, but also to the department. I would urge that steps be taken to have them re-established at these points, and that as liberal a policy be extended to them as may be consistent with the safety of the public money.

A list of distances between the various military posts, cities, and towns throughout the country was compiled in this office and published officially by the Adjutant-General of the Army in January last. Prior to its promulgation the wording of the mileage law, requiring that mileage should be computed by the *shortest* usually traveled routes, gave rise to many conflicting claims as to which route should be considered the shortest usually traveled where several existed. From time to time circulars correcting the original tables are issued, when the opening of new lines of travel make it necessary to announce changes in distances.

The appropriation for mileage of officers for the fiscal year ending 30th of June last was \$175,000. This amount has been entirely expended, excepting \$539. I have therefore asked for a like amount for the fiscal year 1886. The amount appropriated for the current fiscal year (1885) is but \$160,000. There will undoubtedly be a deficiency unless great restrictions are imposed in the issuing of orders that contemplate the payment of mileage. The extension of railroads into sections of the country heretofore traversed by stages and quartermasters' wagons accounts in part for the increase in the amount of mileage paid to officers, but no doubt a larger amount is thus saved to the Quartermaster's Department in the item of their transportation.

In this connection I would again suggest that the law forbidding the payment of mileage to Army officers over land-grant roads should be repealed. On no other class of public officers is the restriction placed. Officers of the Army alone are subjected to this injustice.

I would again repeat my recommendation of 1882 and 1883, in regard to the importance of a change in the law relating to the official bonds of paymasters, and recommend the passage of the bill (Senate 1556) introduced at the last session of Congress. The bond of an approved guarantee company would, if accepted as security, be a great relief to many officers.

Paymasters experience much difficulty in procuring sureties, for the reason that the accounting officers of the Treasury hold that there is no limit as to the time a bond remains in force, although new bonds are required every four years. A limit of at least four years during which a bond will be operative should be fixed and sureties should be released from liability if the Government fails to bring suit within five years after a bond expires.

The commanding general, Department of Texas, has made a vigorous effort to carry out the spirit as well as the letter of the regulations, forbidding the transfer by officers of their pay accounts before maturity. The regulation is a wise one, and its violation has caused officers in not a few instances to mar their record.

On the ground that a public officer should not be deprived of the means of maintaining himself, the law will not permit his salary to be attached. Paragraph 2380, Army Regulations, is no doubt based on the same principle. It should be enforced and no longer treated as a dead letter.

The many changes in the laws and regulations applicable to this Department since the issue of the Paymaster's Manual of 1871, rendered necessary a new edition of that work. This duty was intrusted to Maj. A. B. Carey, paymaster, U. S. A., who in his compilation has shown great discrimination and tact in his judicious selections of matter, and

I take pleasure in congratulating him and the Department upon the success of his labors. The Manual was brought down to June 30, 1884, and was published in the following month, since which date it has been very generally distributed throughout the Army, especially to disbursing officers of the staff and to all company commanders.

The report of Maj. A. B. Carey, in charge of the settlement of claims of colored soldiers and sailors, is herewith submitted. He has exercised great economy in the additional expense incurred in placing the money in the hands of the claimants, the expense being a trifle less than 1½ per cent. of the amount so placed.

I am, sir, very respectfully, your obedient servant,
WM. B. ROCHESTER,
Paymaster-General, United States Army.
The Hon. the SECRETARY OF WAR.

REPORT OF PUBLICATION OF WAR RECORDS.

WAR DEPARTMENT, WAR RECORDS OFFICE,
Washington, D. C., October 14, 1884.

SIR: I have the honor to report the progress made in the publication of the Official Records of the War of the Rebellion since October 14, 1883.

Of Series I, Volume X (in two parts) and Parts I and II of Volume XI have been published; the index to Part III of Volume XI is undergoing final revision; the text of Volumes XVI-XVIII has been stereotyped; Volume XIX is now in the hands of the Public Printer, and the manuscript of Volumes XX-XXIV is ready for him.

The force of copyists employed has been reduced from ten to five.
The expenditures on account of printing, binding, &c., since October 14, 1883, are as follows:

For composition, stereotyping, &c., volumes still in hands of the printer—

Volume XVI, Part I.....	\$908 35
Volume XVI, Part II.....	1,929 69
Volume XVII, Part I.....	1,812 19
Volume XVII, Part II.....	1,598 35
Volume XVIII.....	2,079 35
To complete—	
Volume X, Part I.....	7,055 53
Volume X, Part II.....	5,225 57
Volume XI, Part I.....	7,642 77
Total.....	28,251 80

RECAPITULATION.

Balance available as per last report.....	\$47,737 74
Appropriation for fiscal year ending June 30, 1885.....	36,000 00
Total.....	83,737 74
Expenditures.....	28,251 80
Available October 14, 1884.....	55,485 94

The expenditures for salaries and rent, made under the immediate supervision of this office, during the fiscal year ending June 30, 1884, have been as follows:

Salaries.....	\$34,310 07
Office rent.....	1,200 00
Total.....	35,510 07

Fuel, lights, stationery, and all other incidental expenses have been provided by the supply division of the War Department.

Valuable contributions have been made to the Confederate records by Generals H. P. Bee, R. E. Colston, Mrs. Susan P. Lee, and others, through the War Department agent.

Attention is invited to the fact that no provision has yet been made for completing the sets of the published records as distributed under the act of August 7, 1882, which went into effect after Volumes I-V had been issued.

Very respectfully, your obedient servant,

ROBERT N. SCOTT,
Bvt. Lieut. Col. U. S. A., in Charge.

The SECRETARY OF WAR.

REPORT OF THE BOARD OF VISITORS TO THE MILITARY ACADEMY.

WEST POINT, N. Y., *June 17, 1884.*

SIR: The undersigned, the Board of Visitors, beg to present herewith their report upon the character and condition of the United States Military Academy at West Point, as prescribed in United States Revised Statutes, secs. 1327, 1328.

The Board met on Monday, June 2, and organized by the election of General W. S. Rosecrans president, and George E. Waring, jr., secretary.

The Board took into view that this Academy owes its origin to the suggestions of President Washington, who, as early as 1793, officially called the attention of Congress to the subject of such an institution; that Congress, in May, 1794, providing for a corps of engineers and artilleryists, directed that the Secretary of War should attach to each of the four battalions so provided for eight *cadets*, who were to be instructed in the arts and sciences required for the discharge of the duties of their profession; that as early as 1808 this provision was enlarged and the Military Academy was established substantially on its present foundation; that from that time to the present it has commanded the support and confidence of every administration; that reports have annually been made to Congress on its condition and working, with the exception of the four years of the late war, many of which reports will be found of record as stated in appended Annex 1, giving references to volumes in which the reports may be found.

It also adverted to the exhaustive report of the commission ordered by the act of June 21, 1860, chapter 163, section 8, and printed in Senate Miscellaneous Documents, second session Thirty-sixth Congress, containing 350 pages.

Considering all these facts, and that the objects of the law providing for an annual examination of the affairs and workings of the United States Military Academy (U. S. Rev. Stat., chapter 4, section 1327-'28-'29, p. 227) is to secure to the President, the Senate, and House of Representatives eye-witnesses of the actual condition of the institution, and their judgment of its usefulness to the public service.

The president announced the following committees:

First committee.—On the mode of appointment, qualifications, initial examination, and final admission of cadets, including the question of the

propriety of a Government preparatory school for aspirants to cadetship: Messrs. Brown, Beach, Ruggles, and Coke.

Second committee.—On the course of studies, methods of instruction and examinations, grading, relative and general proficiency, and moral tone of cadets at the United States Military Academy: Messrs. Palfrey, Brown, Houk, and Skinner.

Third committee.—On discipline of the Corps of Cadets, composition, organization, government, practical instruction in infantry, cavalry, and artillery; relation of cadets to officers and to each other; messing, mess-hall and hospital management, &c.: Messrs. Mosher, Ruggles, and Haymond.

Fourth committee.—On public buildings, grounds, sewerage, roads, and improvements: Messrs. Waring, Haymond, and Houk.

Fifth committee.—On fiscal affairs, cost of maintenance of the Military Academy, source of revenue, methods of accountability for expenditures as follows: (a) of quartermaster's funds; (b) of commissary funds; (c) of hospital funds; (d) of post funds; (e) of contingent funds: Messrs. Houk, Beach, and Palfrey.

The president was made an *ex-officio* member of each committee.

The work of the various committees has been performed with thoroughness and fidelity, and the recommendations of this report are in all cases based on the facts obtained by their investigations, and made after discussion in full Board. The full reports of the several committees and the papers presented therewith are appended. They constitute an integral part of this report.

It is hardly necessary to say that the Board has found the general condition of the Academy and its belongings highly satisfactory, if not beyond criticism. The Government has been generous in its provisions, and the administration, now as in the past, is all that could be desired. The United States may well be proud of its Military Academy, whether from the point of view of those who are interested chiefly in general and technical education, or in that of those who appreciate an intelligent and thorough administration of a great public establishment. The grounds, the buildings—so far as funds allotted permit—and the careful attention to detail in every department combine to produce a most satisfactory general result. The recommendations of this Board cover only such minor details as can be satisfactorily compassed with moderate appropriations. The great investment has been made and this school founded on a most substantial and practical basis.

It is believed that a fuller knowledge of the character and achievements of the Military Academy among the people at large would insure the removal of any prejudice against it that may now exist, and create a general disposition to maintain it in the best manner. To this end it is hoped that this report may receive a wider distribution than has been given to the reports of previous boards.

Of course, the first object of the Military Academy is, and always has been, the proper technical education of officers and their preparation in all mental, moral, and physical qualities for the important duties which they are to perform. The public knows very well that this object has always been satisfactorily attained. Our experience during the Mexican war and during the recent rebellion has demonstrated, to the satisfaction of all, the great value to the success of our arms of the period of early thorough preparation through which nearly all of the officers of the Regular Army had passed. While regular officers had by no means a monopoly of the glory and success of the recent war, a very casual review of the names of those who were most prominent and useful will

testify the degree to which a West Point education seems to have aided in securing its final result.

One advantage of this training which does not present itself to the public mind is found in the immense economy of life and material secured in time of war, through the management and instruction of raw troops by experienced officers. A full regiment put on active service for six weeks would not fall below 85 to 90 per cent. of its full strength for daily duty, while under precisely the same conditions, but with inexperienced officers, it has been found that the men fit for service seldom exceed 65 per cent. The relative economy in the matter of clothing and transportation is even greater. Officers educated here are the leaven from which civilian officers grow in time of war. To this estimate, however, must be added another much more serious, when it is remembered that it is very largely from those who thus become unfit for duty that our permanent pension lists are recruited, and that in any sickly regiment the energy of the men for service will always be a large percentage below the normal standard of men of vigorous health.

Probably no one having in mind the importance of preparing for war in time of peace questions the policy of maintaining the Academy in full efficiency. Doubts concerning its value, as a part of the military establishment, if entertained in any quarter, can be based only on the idea that our strength and our remote position among the nations of the world make it unlikely that we shall again have occasion to raise a large army. Without discussing the soundness or unsoundness of this idea, those who entertain it might with advantage study the character of the Academy from other points of view than that of the mere military training of officers. As a school, it is the nucleus for a completeness of training and development of character and for an encouragement of a delicate sense of honor and of fidelity to trusts of which the moral influence on the community at large must be out of all proportion to the cost and care of its maintenance.

In no single respect have the members of the present Board of Visitors been more impressed than by the relation to their work held by the officers and instructors in charge of the Academy.

The opinion that the performance of the duties of a public office, of whatever character, has for its chief incentive the drawing of public pay—an opinion unfounded, as we believe, throughout the public service generally—is especially controverted here. The zeal with which officers and instructors devote themselves to the performance of their duties, the personal interest they evidently feel in their tasks, and their solicitude for the success of the institution with which they are only temporarily connected has been most interesting to see. It would hardly be too much to say that the spirit inculcated and developed here, among the large number of officers of the Army detailed for duty each four years, must exert a highly beneficial influence throughout the service.

The various committees of the Board, and in some cases the whole Board, have given their attention from day to day to the whole course of examination in the Academy and in the field, and have remained to inspect the examination for admission of the incoming class. The result of this observation has been to impress us most fully with the value not only to the Army but to the whole country of the course of training and development here maintained. There is nothing in any of the civic colleges and universities at all equal to it. The incoming class, appointed from all parts of the country, arriving at West Point in June, is subjected to an examination by the Academic Board to ascertain whether the appointees have the qualifications required by ex-

isting laws and regulations. These requirements, although much below those demanded for entering the freshman class of a college, are probably such as would enable their possessor to learn his course at the Military Academy.

The examination is perfectly fair and impartial, and the issue is not influenced by favoritism, friendship, or personal sympathy, while as rigid as it can be made in view of the fact that tests must not be applied which cannot be satisfied by the usual educational facilities of any Congressional district in the country, and as broad as the very limited range of subjects will allow, the law prescribing preparation only in reading, writing, arithmetic, geography, American history, and English grammar. The purpose of the examination is not so much to find out what a young man knows or remembers of what he has learned on these subjects, as it is to test the degree to which his previous instruction has prepared him for the educational work on which he is about to enter. It seemed evident that the character of this preparation was intended to be the controlling test, and that the only motive for exclusion was based on the improbability of the success of the candidate in his academic course; that is, the only thing considered is the chance of his being able to maintain his position among his fellows and to repay the Government for his cost by profiting from his advantages.

That the examinations are not too severe is evidenced by the fact that fully 55 per cent. of those who enter fail to keep up with their classes. They drop out of the way either because they are too heavily handicapped by insufficient preparation, or because they lack the natural persistency and industry necessary to the mastering of the very exacting course of study.

These young men having been admitted, and having shown by their proficiency during the first half year that they are worthy to be mustered into the service as cadets, receive their warrant, enter upon a course of education, of military drill and training, and of physical development, lasting, with little intermission, for three and a half years. Two months vacation in the second year and two months relief from study while in camp during the other years are all the recreation allowed them, and even during the camping period the military instruction and drill are rigorously prosecuted.

Not to detail the experience of a cadet from the time of his admission until his graduation, a sufficiently comprehensive idea can be given of the treatment to which he has been subjected by his condition at the time of graduation.

We have carefully watched the various examinations and exhibitions, and, not speaking of the members of the class in higher standing, but considering only those of average grade, we have seen young men who four years ago came here from country schools and from rural occupations, educated barely well enough to be admitted, far from erect in their bearing, often slouchy and delicate in physique, and incapable of enduring fatigue or of continued physical activity—we have seen these young men, erect, bright, clean-cut, and intelligent, standing square upon both feet for ten or fifteen minutes while giving an intelligent demonstration of abstruse scientific problems or passing examinations in other branches most creditably; going through the evolutions of dress parade as well as soldiers who have no other duty and no other training; handling a light battery in active drill evidently without fatigue and without hesitation; performing equally well in cavalry drill, at target practice with siege guns and sea-coast guns and mortars, at ponton and spar bridge-building, and in every branch of the duty of a soldier acquitting them-

selves with the skill of veterans and with the intelligence of educated men. Their exercise in the gymnasium and fencing school were excellent. In the riding school the exhibition was an astonishment to all who saw it for the first time. A near approach to perfection in such horsemanship as is indispensable to a well-trained cavalry soldier was to be expected, but the bareback riding, mounting with one hand, vaulting into the saddle and over the horse, mounting and dismounting at a gallop, taking the belt with saber and revolver from the ground when in motion, performed by the whole class present—these and other exercises, when considered in connection with all else that a cadet must learn to do with his head and with his body, were more than remarkable.

It may by some be questioned whether or not it is necessary, in order that a young man may become a good officer, that he should know as much or be able to do as much as he is made to do and is taught at West Point; but that it is, for other reasons, a great thing for the country at its own expense to maintain one young man from each Congressional district throughout the land subject to such complete training and development, no one can question. Were the graduates of the Academy to make no other return to the country than to go back among their own people as an example of what may be done by proper intellectual and physical education, the maintenance of the West Point Academy would still be justified.

Concerning the matters of detail to which the attention of the Board was especially called in its investigation, reference is made to the reports of the several committees published herewith. These reports have been discussed in full meeting, and their recommendations have, in the main, met with the approval of all of the members.

Concerning the recommendation of the first committee, that examinations be made with reference to certain prescribed text-books, it was thought that, while such a course would have marked advantages, there would be possible objections to its adoption in view of the commercial zeal of text-book manufacturers. As a rule the questions given in the examination papers are such as are answered in all of a wide range of text-books. The applicant is asked to name the text-book that he used in preparing on each subject, and the value of his answers is measured with reference to such authority. Although the difficulties attending the present method of examination for admission are fully recognized, the Board is not able to recommend any other system which, while equally fair to all comers, would afford so good an answer to the only vital question: "Is or is not this applicant a fit subject for the course of education to which he must be subjected if admitted?"

Whatever hardship the present regulations may seem to work in special cases, we feel assured that they are administered liberally and with judgment as well as with fairness. The fact must always be borne in mind that the purpose of the examination is to secure good material for training in the Academy, not in any sense to distribute gratuitous education to the sons of the people. Disappointed applicants must suffer, and they have our sympathy, but the good of the whole people is best secured by ignoring entirely all questions of personal sympathy and seeking only the very highest quality of raw material to be developed for the people's service.

The suggestion made by the second committee as to the relative importance of instruction in the French and Spanish languages is not made the subject of any specific recommendation by the Board beyond an expression of opinion that more attention should be given to Spanish—

without designating the study from which extra time therefor shall be taken.

The Board gives its unqualified indorsement to the recommendation made by the third committee for the detail of Capt. William F. Spurgin as treasurer of the Military Academy and quartermaster and commissary of the Corps of Cadets, for a further tour of four years. In no department of the institution did we see better evidence of intelligence and thoughtful management than in this most important one. Indeed, we believe that much of the good condition of the corps, as we saw it, was due to the excellent character of everything pertaining to its mess and general system of supply. Especial attention is called to the table appended to the report of the third committee, giving an abstract of the cost of provisions, &c., used in supplying the mess for ten years ending April 30, 1884. The average cost per year for each cadet has ranged from \$174.10 to \$241.09. During the last year it was \$212.19. A great improvement in the amount and quality of food, character of preparation, and service has been secured without an increase of cost.

Old graduates of the Academy generally concur in attributing to the better and more ample feeding of the cadets the great reduction of truancy under the present management. Formerly the cadets were often tempted by insufficient nutrition to seek food outside the limits. An analysis of the table shows a considerable increase in the expenditure for provisions and a great decrease in the incidental expenses of the mess. The peculiar qualifications of Captain Spurgin for the duties he is now performing are of a sort very difficult to secure, and it would in our judgment be a great misfortune to deprive the cadets of their continued exercise.

The Board concurs fully in the recommendations made by the fourth committee, especially with reference to the sanitary improvements proposed, placing first in importance the renewal of the sink at the cadets' barracks, and next the establishment of proper facilities for the public at suitable points in the grounds.

It is in connection with the recommendations of this committee that the greatest outlay is required, and attention is called to the reason given by the committee for not submitting an estimate of cost.

The report of the fifth committee sets forth sufficiently in detail the manner in which the fiscal affairs of the Military Academy are regulated and checked. Its expression of approval of the methods of administration adopted are fully indorsed by the Board.

The total number of cadets graduated from 1837 to 1884 is 2,167. The total cost of each to the Government, as shown by the tables of pay and appropriations appended to the report of the fifth committee, has been \$3,828.23. This estimate is hardly a fair one, however, as considerably more than one-half of those who have entered the Academy have failed to complete the course, and those who have so failed have generally derived much benefit from their instruction. They are fitted to become and often do become excellent officers for local military organizations, and good engineers or instructors in high schools and colleges.

The Board recommends that the band be increased to forty pieces, and that the pay of the men be made adequate to the securing of a good class of musicians. This is the only band supported by direct appropriation, and it should be made better than its present foundation will allow it to be.

In addition to the recommendations of the committees, it was resolved, on motion of Senator Conger, to recommend that a *light battery* be sta-

tioned at West Point for the purpose of providing means for adequate artillery practice and instruction, and that the number of cavalry horses required for the complete instruction of the cadets in cavalry tactics be kept here at all times and used for that purpose only.

On motion of Senator Conger, it was resolved that the address of Mr. Houk to the graduating class be referred to in the general report, and that it be appended in full to the proceedings of the committees of the Board of Visitors.

It was further resolved that it is desirable that hereafter a better room for the meetings of the Boards of Visitors be provided by the Superintendent than the one now occupied in the basement of the hotel.

All of which is respectfully submitted by direction of the Board.

W. S. ROSECRANS,
President.

B. GRATZ BROWN, of Missouri,
DANIEL RUGGLES, of Virginia,
FRANCIS W. PALFREY, of Massachusetts,
GEO. W. HOUK, of Ohio,
L. F. MOSHER, of Oregon,
HENRY HAYMOND, of West Virginia,
GEO. E. WARING, JR., of Rhode Island,
Members appointed by the President.

REPORT OF THE CHIEF OF ENGINEERS.

OFFICE OF THE CHIEF OF ENGINEERS,
UNITED STATES ARMY,
Washington, D. C., October 15, 1884.

SIR: I have the honor to present for your information the following report upon the duties and operations of the Engineer Department for the fiscal year ending June 30, 1884:

OFFICERS OF THE CORPS OF ENGINEERS.

The number of officers holding commissions in the Corps of Engineers, United States Army, at the end of the fiscal year was 101 on the active list, and 8 on the retired list; the latter, however, under section 1259 Revised Statutes, not being available for duty.

Since the last annual report the Corps has lost by death and retirement five of its officers: Lieut. Col. Godfrey Weitzel, who died at Philadelphia, Pa., March 19, 1884; Maj. Orville E. Babcock, who was drowned at Mosquito Inlet, Fla., June 2, 1884; Maj. Francis U. Farquhar, who died at Detroit, Mich., July 3, 1883; and Brig. Gen. Horatio G. Wright, who was retired March 6, 1884, and Col. William F. Reynolds, who was retired March 17, 1884, under provisions of section 1 of the act of Congress approved June 30, 1882.

On the 30th of June, 1884, the officers were distributed as follows:

Office Chief of Engineers, including the Chief.....	4
Fortifications and river and harbor works.....	18
Fortifications, river and harbor works, and Board of Engineers.....	2
Fortifications, river and harbor works, and Yorktown Monument.....	1
Fortifications, river and harbor works, and light-house duty.....	3
Fortifications, Board of Engineers, Battalion of Engineers, and Gun Foundry Board	1
Fortifications, river and harbor works, the Mississippi River Commission, joint board upon interior coast line of water-ways for defense of the Atlantic and Gulf seaboard.....	1

River and harbor works.....	23
River and harbor works, Mississippi River Commission, and light-house duty...	1
River and harbor works and light-house duty.....	2
Board of Engineers and The Mississippi River Commission	1
Board of Engineers and light-house duty.....	1
Washington Aqueduct and Government of the District of Columbia.....	2
Washington Aqueduct	1
Battalion of Engineers.....	14
Leave of absence.....	2
Sick leave	1
Preparation of report upon investigations in Europe, 1881-'82.....	1
Detached, on duty with the Lieutenant-General of the Army, generals commanding divisions and departments, Light-House Establishment, Military Academy, Board of Commissioners of the District of Columbia, The Mississippi River Commission, and construction of building for State, War, and Navy Departments, &c	22
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The officers detached were on duty as follows :

Col. Thomas Lincoln Casey, in charge of the construction of the building of the State, War, and Navy Departments ; of the Washington National Monument ; of the improvements over the grave of Thomas Jefferson, at Monticello, Va.; of the erection of a monument at Washington's Headquarters at Newburg, N. Y.; and of the erection of a mounment to mark the birthplace of George Washington ; member of Advisory Board to Committee on Ventilation and Acoustics of the House of Representatives ; member of the Light-House Board.....	1
Maj. David P. Heap, engineer secretary to Light-House Board.....	1
Maj. William A. Jones, on staff of Major-General Commanding Division of the Pacific and Department of California.....	1
Maj. William R. Livermore, on staff of Commanding General, Department of Texas.....	1
Maj. William S. Stanton and Lieut. William M. Black, on duty with Company E, Battalion of Engineers, and at Military Academy	2
Maj. Thomas H. Handbury, on staff of Commanding General, Division of the Missouri	1
Capt. James F. Gregory, on staff of the Lieutenant-General of the Army	1
Capt. Charles E. L. B. Davis, engineer tenth and eleventh light-house districts..	1
Capt. John C. Mallery, engineer first and second light-house districts.....	1
Capt. Albert H. Payson, engineer twelfth light-house district.....	1
Capt. Joseph H. Willard, secretary and assistant to construction committee of The Mississippi River Commission	1
Capt. Francis V. Greene, assistant to Engineer Commissioner District of Columbia	1
Lieut. Smith S. Leach, secretary and disbursing officer of The Mississippi River Commission.....	1
Lieut. Dan C. Kingman, on staff of Commanding General, Department of the Platte	1
Lieuts. Eugene Griffin and Gustav J. Fiebeger, on duty at the Military Academy.	2
Lieut. Theo. A. Bingham, on staff of Commanding General, Department of Arizona.	1
Lieut. Oberlin M. Carter, on staff of Commanding General, Department of the Missouri	1
Lieut. George W. Goethals, on staff of Commanding General, Department of the Columbia.....	1
Lieut. John Millis, on duty under the immediate orders of Colonel Duane as his assistant in connection with experiments upon electric lighting.....	1
Lieut. John Biddle, on staff of Commanding General, Department of Dakota....	1
	22

SEA-COAST AND LAKE-FRONTIER DEFENSES.

It would doubtless be superfluons at this late day to explain the principles upon which the system of our sea-coast fortifications should be based, but for the persistent misrepresentations made by individuals whose positions unfortunately enable them to mislead public opinion.

The sole object of sea-coast forts and batteries, as constructed by the Corps of Engineers, has been to prevent hostile fleets from approaching near enough to our important seaports to destroy shipping, public estab-

lishments, such as navy-yards, &c., and to lay our cities under contribution. The contribution which could be levied from New York alone would probably pay four or five fold the cost of all the fortifications of the important harbors of the country.

In early periods these forts on their land sides, in certain important cases, as Fort Monroe and Fort Adams, were projected so as to resist a siege for a length of time sufficient to gather and concentrate a force to drive the invaders back to their ships; but in proportion as the facilities of communication and the population increased, the defenses on the land side were reduced to a minimum. Between 1812 and 1884 the transition from sail vessels to steamers and from stage coaches to steam cars, and the increase of population to fifty millions, developed such ready means of throwing large forces upon threatened points that a hostile debarkation with the view of capturing our forts by a regular siege on land is not considered practicable.

This secures to us the advantage of being attacked only by ships, and our forts and batteries need protection on the land only sufficient to prevent a successful attempt from boating parties to take them in rear by surprise, for the purpose of spiking and disabling the guns and blowing up the small magazines intended for the service of the guns.

This point needs to be somewhat dwelt upon as a reply to the reckless assertion that there is a sinister motive underlying the recommendations for forts and batteries for the defense of our harbors; that these may be intended to overawe our cities, and their construction also made a pretext for a large increase of the standing army to destroy the liberties of the country.

We have already seen that the system adopted almost dispenses with defense on the land side, so that the citizen soldiers from the cities could easily take possession of the forts, and, as to any needed increase of the standing army, a small fraction of the present force, easily disposable during a time of peace, would suffice to take care of all the forts. In time of war our system requires the garrisons of these forts to be composed almost entirely of citizen soldiers.

In former times the forts were placed near our cities; at present the engineers are moving them far down the harbors to the greatest distance from the cities that the defensive features of the neighborhood will permit, and it is considered advisable to place them not less than 7 miles from the places to be defended.

These sea-coast forts do not surround the cities like the fortifications of Paris, which are held up by the alarmists as a warning, but simply defend the narrow channels leading to the harbor.

It is apparent from this explanation that the construction of sea-coast batteries will have no effect in overawing the cities, increasing the standing army, or impairing the liberties of the people.

The engineers have uniformly considered that batteries of cannon alone could not generally close the water approaches to our harbors against the ingress of hostile fleets, and their earliest reports contain recommendations for the placing of obstructions in the channels, as rafts, piles, sunken hulks, &c., to arrest and hold them under the fire of our guns. The passage of the forts at New Orleans by Admiral Farragut was not attempted until after the obstructions moored in the channel by the Confederates had been broken up and sent adrift by the floods of the Mississippi.

The present system, by the use of torpedoes—that is, submarine mines anchored in the channels—enables the defense to stop the ingress of hostile fleets until the mines shall have been removed, or, at least, the means of exploding them destroyed.

These mines consist of a shell of iron inclosing a charge of dynamite, gun-cotton, or explosive gelatine, and are so arranged as to make it impossible for a vessel to enter without touching one or more.

The explosion is regulated by electric currents communicated from the shore through cables, so as to take place from simple contact of the vessel with the torpedo, or by the act of the electrician, as he may choose; so that a friendly vessel shall pass over unharmed, while that of an enemy immediately following would be destroyed.

But unless these lines of torpedoes are defended by guns of such power as to pierce the armor of iron-clads, they may be countermined and removed with impunity, or the cables and other electrical communications may be dragged for and the whole system rendered innocuous.

The rooms which contain the electric apparatus and whence the cables start, as well as the tunnels through which these pass into the water and communicate with the mines, require to be shot and shell proof, for a solitary missile penetrating either the operating room or the cable tunnel might destroy electric connection with the mines and render the entire system useless.

A system like this, well managed and defended against hostile attempts, of necessity closes the harbor against an enemy's vessels.

What is needed is an amount of funds sufficient for the purchase of torpedo cases, electric cables, and apparatus for all the principal harbors at least—these cases to be kept in store ready to be filled with explosives, and moored or planted in the channels when needed.

Another kind is the fish torpedo, operated from shore stations, whose motive-power and steering are effected by electrical connections from the land; this would be mainly used against vessels engaged in attempting to remove the groups of submarine mines already noted. This kind may be very useful, but the other system, that of submarine mines, is the essential element for closing a channel, as may be clearly perceived by supposing the submarine mines to be dispensed with and our reliance placed solely upon the fish torpedo. The enemy's vessel having no mines to fear under its keel enters the harbor at a great speed of 15 or 16 knots—the fish torpedo starting from the shore and with a speed of about 10 miles, encountering a strong current perhaps, will find it very difficult to strike its object. If the weather be thick or foggy, this description of torpedo would be almost useless.

But these fish torpedoes are a patented invention, and such is the energy for a profit from their sale that the agents have been actually able to persuade persons who ought to know better that their torpedo is a more important element in defense than the submarine mine.

The resistance of some to all measures for defense of harbors cannot be better exemplified than by their assertions at one time that guns are no longer necessary after the invention of torpedoes, and at another when the purchase of torpedo cases, of which a very large number is necessary, is asked for, they find the objection that an improved pattern may hereafter be found. It is impossible to conceive how an improvement in torpedo cases could ever make a change in the results of a charge of dynamite placed under a vessel's bottom, but with those who are determined to have no defenses any excuse is sufficient. Another plea to dispense with defenses is the well worn one that there is needed only an improvised fort or battery of earth or sand thrown up to meet the emergency.

Even with the old-fashioned guns of an early date, such as 18, 24, 32, and 42-pounders, it was found necessary to construct substantial platforms of masonry to support them, and to fasten pintles of iron into

this mass of masonry to hold the carriage when the gun was fired, and a considerable time was moreover found necessary for the mass to harden and set.

When the 10-inch and afterwards the 15-inch gun were introduced, the platforms of masonry were proportionately increased, and, in addition, magazines for powder and shell were built close alongside to save the transportation of the heavy charges.

Now that the weight of the projectile has increased from 500 pounds to 2,000 pounds, and the limit is not perhaps reached yet, in addition to magazines for powder and shell, with lifts to raise the charges, there are required engine and boiler rooms for motive power to load and manipulate the gun, and all of these—magazines, engine and boiler rooms, &c.—must be made shot and shell proof against projectiles capable of penetrating 60 feet of sand, and between 30 and 40 feet of concrete masonry.

The persons who tell us to wait for war, and then to improvise a sandheap as a fort, without making any provision of emplacements for the guns or for their service, either assume the people to be profoundly ignorant, or are so themselves.

Now that by means of submarine mines the defense can compel the enemy, if he attempts to force his way, to lie under the fire of the land batteries until he can clear a passage through the groups of torpedoes, it is manifest that with the addition of guns of heavy caliber, properly protected in their batteries, the entrance to our harbors can be made impregnable to attack, and in case of disaster, through neglect of making arrangements so manifestly effectual, a terrible responsibility must rest somewhere.

Some of the guns on land should at least equal the most powerful afloat on the fleet. The armor on land should be much heavier than that carried by ships. The heavier guns of the batteries should be so protected as not to be reached except by a shot coming through the port. It would be very bad judgment, in order to save a little armor, not to make the more important batteries invulnerable to the fire of the fleet.

Iron turrets for the heaviest guns, to secure the maximum field of fire; iron casemates, with ports or embrasures, for the next class of guns; the lighter guns in barbette on disappearing carriages—these, with rifled mortar batteries, would, in general, constitute the defense of the most important harbors.

The necessity of complete shelter for the more important guns of a position will be rendered clearer by the consideration that a bombardment of the batteries by the lighter vessels of the fleet, armed with the long-range 8-inch and 10-inch guns of the modern type, which would probably be the first operations of the enemy's fleet, will serve to search out uncovered guns and put them out of service by injuries, at least to the carriages and platforms.

The English, through the unfortunate choice at first of the muzzle-loading in preference to the breech-loading system, condemned themselves to the use of bores too short to develop the full effect of the gases generated by the combustion of the powder charges. Krupp, by the opposite course, manufactured guns, caliber for caliber, superior in penetration and range.

As the English, by multiplied experiments upon guns and armor, attracted at first to a greater degree the attention of the military world, and were for a time at least the prominent authorities upon these matters, it is not surprising that their followers were led into error as to the possible velocities which could be imparted to projectiles, and, as a

consequence, to the thickness of cover, whether of iron, earth, or masonry, necessary for protection.

This period of delay has passed, and the English have adopted the system of breech-loading and of long bores.

It is decided also that the best gun of the future should be built up of steel in concentric tubes, or, as it now seems possible, of steel wire wound upon a steel tube and covered on the outside by tubes or jackets to afford longitudinal strength.

The gun of the present design, whether constructed by the one or the other system, will be a structure upon correct scientific principles, and future improvements will be very gradual and will not revolutionize by any great or sudden increase the scale of velocities now given to projectiles.

It would appear, therefore, that the time has at length come to be supplied with the best modern type, with the confident assurance that before the list of our armament shall have been completed we will be possessed of guns all of which will be valuable, and a number of them the best that can be manufactured.

Thus supplied, and until the present military art shall have passed entirely away, it does not appear possible that great changes in the armament of our forts will be necessary.

Those persons are greatly in error who imagine that by diplomatic delays war may be averted until proper preparations for defense can be made. Were we as well prepared as many other nations, this might be true; but while a diplomatic delay of a few months might be necessary for a naval power to commission its ships, it would require a great many years for us to get together modern guns, without reference to constructing forts and batteries for their reception.

Past events by no means justify the assertions made that our cotton and grain have become so necessary to the nations that they could not engage in war with us *for a short period* without the interruption of their supplies of these articles. It seems to be forgotten that a descent upon our coast, to hold our unprotected cities under the guns of a hostile fleet, would consume but a few months, and in the mean time cotton and grain in sufficient quantity might be obtained elsewhere. Let it be well understood that the modern system is to make war sudden, sharp, and decisive, and to make the beaten party pay expenses.

It is also said by some that England, which has largely the carrying trade of the world, would be very chary of going to war with us, for fear of depredations upon her commerce by our privateers.

During the war of 1812 our Baltimore clippers and other fast sailers did, it is true, distinguish themselves as privateers by their sailing qualities, in comparison to the heavy English merchantmen and men-of-war. But all is now changed; privateers must be steamers. Where are our fast steamers for these purposes? How long would it take to build them, and might not the war terminate before one was afloat? How many fast steamers might not England put in pursuit of one of ours? England has coaling stations all over the world for her cruisers; where are ours? The infrequent stations at which our steamers might obtain coal would be easy, comparatively, to observe, and ingress or egress to our ships, in many cases, prevented. In short, it is not so sure or easy nowadays, with all the circumstances changed, to make privateering either efficient or profitable.

But granting all that is claimed for privateers, let us be thankful for delay and avail ourselves of the opportunity offered to put our house in order by fortifying our coasts, and prepare for the day when we shall

have restored our shipping to the just proportions required by our national developments in other ways.

Let us remember also that the growth of our shipping and the rivalry with England for the carrying trade of the world has been the cause assigned by some for the favor shown to the Confederates, and for the construction in English ports of their cruisers, which swept our commerce from the ocean and destroyed with it her sole grievance against us.

If a future struggle for the supremacy in shipping should result in war, let us at least enter into it with our harbors and cities well protected, so that our merchantmen, and even naval vessels, may have places of refuge without fear of capture at our wharves.

Should, however the evil day come and find us without modern guns, without sufficiency of torpedoes, without fortifications except the sand heap which forms the staple quotation, without emplacements for the guns if we had them, or magazines, or machinery for loading or maneuver, or any facilities whatever for shelter of guns and cannoneers against shells and machine guns, it is to be feared we would not cordially welcome the prophet who, having opposed timely preparations, promised that in the supreme moment, when the hostile iron-clads, whatever their strength and power, should approach the harbor of New York, they would be turned back somehow, without explaining how, by "Yankee energy, Yankee skill, Yankee inventive genius." It is to be feared that the first flash of the monster guns would dissipate this oratorical vapor emitted when the danger was far off, and leave the deluded hearers to realize the fate of the blind who follow the blind.

The Board of Engineers for Fortifications, under directions from this office, has prepared approximate estimates, contained in its reports herewith of August 6 and August 30, 1884, of the cost of fortifications, including the armaments of modern heavy guns and rifled mortars, for Portland, Boston, New York, Philadelphia, Baltimore, Hampton Roads, New Orleans, and San Francisco; and another estimate, likewise approximate, for the preliminary works of earth and masonry (without armor, machinery, and guns) to serve as emplacements for the guns.

The total estimate, including armaments, is \$53,488,000.

The estimate for emplacement of guns, excluding armor, guns, and machinery, is \$10,388,000.

Although these estimates are approximate, they have been made with care, and it is believed that the fortifications (including guns) of all harbors on the coast of sufficient importance to tempt an enemy can be prepared at a cost not to exceed \$60,000,000.

For the first time in the development of the modern art of war, the engineer has solved, with mathematical certainty, the problem of closing harbors and rivers against hostile ships, so that the sole question in each particular case would be whether the importance of the place would justify the cost.

No doubt is entertained that, with the addition of submarine mines, the estimate above would prove sufficient to render these harbors impregnable to naval attack.

It is necessary further to say that at the present day no mystery attaches to the method of constructing turrets and casemates of steel or compound plate, and that the requisite plans may be easily prepared by the engineers.

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RIVER AND HARBOR IMPROVEMENTS.

The funds with which the works for the improvement of rivers and harbors were prosecuted during the past fiscal year were derived from the appropriations of the act of August 2, 1882, together with such few balances as were on hand from previous appropriations.

A brief statement is given below setting forth the condition of each improvement, the extent of the work performed during the fiscal year, the amount of money expended, and, in compliance with the provisions of the river and harbor act of March 2, 1867, estimates of the probable cost of completion, together with an estimate, from the officer in charge of each particular work, of the amount "that can be profitably expended" during the fiscal year ending June 30, 1886.

Although, as a general rule, regard is necessarily had in the preparation of these estimates to the more intimate acquaintance of the Engineer officer in charge with the requirements of each locality, they have, in a few instances, been revised and amended in this office.

In view of the misapprehension that seems to prevail regarding the annual estimates, it may be advisable here to go somewhat into detail.

After an interval of more than ten years, an act was passed and approved June 23, 1866, "making appropriations for the repair, preservation, and completion of certain public works, heretofore commenced under the authority of law, and for other purposes." (Statutes at Large, vol. 14, page 70.) This act made provision by specific appropriation for more than fifty works of improvement and directed that examinations or surveys be made at more than thirty other localities with a view to their improvement. It was quite full, and expressed with much detail the manner in which the sums appropriated were to be applied. It also made provision for reports both special and annual (to be submitted to Congress) in relation to the various improvements and surveys therein provided for. Among other things set forth in the act as necessary to be reported to Congress, it required that the annual report shall be accompanied "with a statement of the amount and date of all former appropriations for each work, and a full estimate for its entire and permanent completion, with the amount that can be profitably expended in the next fiscal year."

In the following year an act was approved March 2, 1867 (vol. 14, page 418), making provision for sixty works of improvement and eighteen examinations or surveys, and containing the same general and specific requirements as to expenditures, reports, estimates, commercial statistics, &c.

It is proper to state that these annual estimates are made in compliance with the above-quoted requirements of law, and are not to be considered as carrying with them a recommendation of the officer in charge of the district or of this office, either in respect to the commercial value of the improvement or to the amount to be appropriated, other than for the most economical administration of works, the prosecution of which had already been approved by Congress.

The reports of the officers in charge of the various improvements will be found in the Appendix, and to these reports special reference should be made whenever detailed information is desired concerning the progress and condition of each work.

The examinations and surveys required and provided for in the river and harbor act of August 2, 1882, were assigned to the officers in charge of the several river and harbor districts, and have been completed. Reports of their results were transmitted to Congress from time to time during its last session, and will be found in the Appendix of this report.

The act provided that no survey should be made of any of the harbors or rivers therein enumerated until the Chief of Engineers directed a preliminary examination of the same by the local engineer in charge of the district, and then only when said local engineer shall have made such examination and shall have reported to the Chief of Engineers that in his judgment said harbor or river is worthy of improvement and the work is a public necessity.

Of the 147 localities enumerated for examination in the above act, 76 were reported as not worthy of improvement.

The examination and surveys at localities required and provided for in the river and harbor act of July 5, 1884, have been distributed and assigned to the officers in charge of the several river and harbor districts. They are in progress, and the reports thereon will be submitted from time to time during the ensuing session of Congress as far as received.

Examinations were made during the fiscal year of such plans and locations as were submitted by the parties interested, of bridges proposed to be built over navigable waters under authority of Congress, subject to the approval of the Secretary of War. A brief statement is given below of the action had in each case, the detailed reports of which will be found in the Appendix.

A statement is also given of the work accomplished in the removal of wrecks obstructing or endangering navigation, general provision for which is made in the river and harbor act of June 14, 1880.

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OFFICE OF THE CHIEF OF ENGINEERS.

In the labors of the office the Chief of Engineers was assisted on the 30th of June by the following officers in charge of the several divisions:

Lient. Col. John M. Wilson, brevet colonel, U. S. A.

FIRST DIVISION.—*Fortifications and Surveys relating thereto—Armament of Fortifications—Sites for Engineer Defenses—Board of Engineers for Defenses.*

SECOND DIVISION.—*Battalion of Engineers—Engineer School of Application, and Engineer Depot and Post—Professional Papers and Information—Personnel—Orders—Military Reservations—Land Files.*

Col. John G. Parke, brevet major-general, U. S. A.

THIRD DIVISION.—*Improvement of Rivers and Harbors and Surveys relating thereto—Bridging Navigable Waters of the United States—Public Buildings and Grounds and Washington Aqueduct.*

Capt. Henry M. Adams.

FOURTH DIVISION.—*Accounts for Disbursements—Returns of Engineer Property and Instruments—Applications for Remittances—Appropriations and Estimates—Blank Forms.*

FIFTH DIVISION.—*Survey of the Lakes—Explorations and Surveys—Reconnaissances—Maps—Instruments—Claims.*

Very respectfully, your obedient servant,

JOHN NEWTON,

Chief of Engineers, Brig. and Bvt. Maj. Gen.

Hon. ROBERT T. LINCOLN,

Secretary of War.

REPORT OF THE CHIEF OF ORDNANCE.

WAR DEPARTMENT, ORDNANCE OFFICE,
Washington, October 15, 1884.

SIR: I have the honor to submit the following report of the principal operations of the Ordnance Department during the fiscal year ended June 30, 1884, with such remarks and recommendations as the interests of this branch of the military service seem to require.

The fiscal resources and expenditures of the Department during the year were as follows, viz :

Amount in the Treasury to the credit of the appropriations on June 30, 1883.....	\$629,701 47
Amount in the Treasury not reported to the credit of the appropriations on June 30, 1883.....	5,966 57
Amount in Government depositories to the credit of disbursing officers and others on June 30, 1883.....	227,814 45
Amount of appropriations for the service of the fiscal year ended June 30, 1884	1,981,494 80
Amount refunded to ordnance appropriations in settlement of accounts during the year ended June 30, 1884.....	16,264 99
Gross amount received during the fiscal year ended June 30, 1884, from sales to officers; from rents; from collections from troops on account of losses of, or damage to, ordnance stores; from Chicago, Rock Island and Pacific Railroad Company; from powder and projectiles (proceeds of sales); from sales of condemned stores; from testing machine, and from all other sources not before mentioned.....	125,888 25
Total.....	<u>2,987,130 53</u>
Amount of expenditures during the fiscal year ended June 30, 1884, including expenses attending sales of condemned stores, powder, and projectiles, &c.....	2,015,255 58
Amount deposited in Treasury during the fiscal year ended June 30, 1884, as proceeds of sales of Government property.....	92,540 09
Amount transferred from ordnance appropriations in settlement of accounts during the fiscal year ended June 30, 1884	81
Amount turned into the surplus fund on June 30, 1884	249,290 49
Amount in Government depositories to the credit of disbursing officers and others on June 30, 1884.....	209,007 50
Amount in the Treasury not reported to the credit of appropriations on June 30, 1884.....	7,545 43
Amount in the Treasury to the credit of appropriations on June 30, 1884.....	413,490 63
Total	<u>2,987,130 53</u>

STATIONS AND DUTIES.

The stations and duties of the officers of the Ordnance Department are as follows: Four at the Ordnance Office; thirty-six at the arsenals, armory, agency, and powder depots; nine on the Ordnance Board and at the foundries; seven at the several military headquarters and ordnance depots; four at the Military Academy; one under the orders of the Secretary of the Interior; one in the Life-Saving Service, under the Secretary of the Treasury.

The Ordnance Department provides the armament for our sea-coast defenses, and arms and other ordnance stores for the Army, the militia, the Marine Corps, all other Executive Departments to protect public money and property, and the forty colleges authorized by law to receive them for instruction. These ordnance and ordnance stores must be of the best quality and of superior workmanship, to render them most effective as

war material, and modern invention and improved mechanical methods must be carefully studied and utilized.

The report of the operations at the Rock Island Arsenal is submitted. The erection of shops and storehouses has been conducted economically and thoroughly, and the estimates for the prosecution and completion of the same should receive favorable consideration. The last appropriation of \$10,000 for the general care, preservation, and improvement, for building roads, painting buildings, bridges, &c., is not deemed adequate to the necessities of the arsenal. In this connection Colonel Flagler remarks in his report:

"The utmost that is possible has been done to economize. It is nearly impossible that some improvement of grounds should not be carried on in connection with the construction of buildings in order to utilize material excavated, finish grounds around the buildings, and furnish needed improvements for use in carrying on other work. Besides this, the buildings, roads, and other improvements are now of such magnitude that they require fully ten times as much for their proper care and preservation as they did thirteen years ago, at which time the appropriation for this work was double that which has been allowed in the past few years.

"I know of no better method of exhibiting this than by comparison. The extent of the work that ought to be done, to keep in good order and repair streets, avenues, grounds, large bridges, shores of island, railroads, gutters, walks, sewers, water-works, and the dams and gates and other constructions pertaining to the water-power, is equal to the work of a similar kind done in a city of 10,000 inhabitants. In addition to this, the buildings and many other constructions taken care of by private owners in a city must be kept in repair."

The reasons here given are strongly in favor of larger appropriations for this object. The work of care and preservation is a continuous one, never ending and never completed, and this our largest Government establishment deserves to be kept in such excellent condition as to reflect credit on the country.

SMALL-ARMS.

During the fiscal year ended June 30, 1884, 35,133 rifles, carbines, and shot-guns have been manufactured at the National Armory. Much has also been done in repairing arms, providing spare parts, making swords and sabers and miscellaneous supplies, and manufacturing the Chaffee-Reece magazine gun. It is but fair to record that the well-deserved reputation of the Armory, for the superior design and finish of its products, has been maintained, and that Lieutenant-Colonel Buffington has administered the affairs of that establishment with marked ability and success.

The Lee, Chaffee-Reece, and Hotchkiss magazine guns, recommended by the Board in September, 1882, to be issued to the Army for trial have, after the delays incident to the production of new arms requiring special tools and machinery, been received from the contractors and completed at the Armory, and are now ready to be issued to the Army for trial by the troops.

For some time efforts have been made at the Armory to perfect the rod bayonet and attachment, dispensing with the ordinary triangular bayonet. The rifles first provided with the rod bayonet were defective in design and failed to give satisfaction. The new arrangement will be submitted to you at an early day. The front and rear sights of the rifle have been greatly improved, embodying new and important details which will be found of value in long-range firing, and it is hoped that they will satisfy a much-needed want of the Army.

An estimate has been submitted for a milling shop for the National Armory to cost \$30,000. It is to be a fire-proof structure, two stories and basement, and about 275 by 35 feet, to replace the present old

building, which is unfit and dangerous, and in case of fire would destroy the principal machinery, and suspend operations for many months at the Armory. The appropriation asked for is earnestly recommended.

REWARDS FOR TARGET PRACTICE.

The gold and silver medals, as rewards for successful marksmanship in the different Army contests, including the skirmishers' medals for Department, Division, and Army teams, recently added to the list, have been supplied to the several headquarters in advance of the date of contests, that they might be delivered to the successful contestants on the spot.

The sharpshooters' bronze crosses and the marksman's pins, also authorized by G. O. No. 12, of February 20, 1884, have been made, and are being distributed to the Army.

The liberality of the War Department in providing so many artistic and costly medals and other rewards, for successful efforts on the part of officers and soldiers, has been a powerful and healthy stimulus to the steady improvement of the Army in skillful marksmanship. Being an expert shot leaves nothing wanting to the perfection of the modern soldier. The bullet that unerringly attains its object fully repays all the expense and labor that makes that possible.

A new work on target firing, which will embody the experiences of the Army in target practice during the past five years, is being prepared under your authority by Capt. S. E. Blunt, Ordnance Department and Chief Ordnance Officer Department of Dakota. Its completion is promised at an early day, when it will be submitted for your consideration and approval. His wide experience in charge of target practice in that military department, and his excellent record as a skillful rifle shot in many contests, assures Captain Blunt's success in the preparation of a satisfactory text-book for the instruction and guidance of the Army in this most interesting field of study and practice.

MACHINE GUNS.

The improved Gardner gun, described in the Report of the Chief of Ordnance for 1880, has this year been subjected to further trials at the Proving Ground, under the supervision of the Ordnance Board. The conclusions of the Board (see Appendix 19) are very favorable to the gun, which is pronounced to be light, compact, and simple in its structure, and to compare favorably with the Gatling gun in everything except rapidity of fire. The device for feeding is admirable, and the paste-board box for containing the ammunition of the infantry can be easily adapted for use with this gun, which is a great advantage for a machine gun designed to co-operate with infantry fire.

The Board has recommended that some of the guns be procured for service.

ARTILLERY PRACTICE.

More than ordinary interest has been evinced in the theory and practice of gunnery by portions of the artillery branch of the service, and notably so by batteries stationed in New York Harbor, under Col. John Hamilton, commanding Fifth Artillery. His "Report of Artillery Practice" at "The Narrows," in October and November, 1883,

will be found interesting and comprehensive, giving an excellent practical system which can be applied in other harbors and roadsteads. His report is submitted in the hope that its publication may excite some such degree of interest and emulation in the study and manipulation of heavy cannon as now rules the Army in rifle firing.

This report gives expression to the zeal and ability which have crowned Colonel Hamilton's endeavors with such encouraging success.

GUN FOUNDRY BOARD AND CONGRESSIONAL COMMITTEES.

In my last annual report reference was made to the "Gun Foundry Board" appointed in accordance with the act of Congress approved March 3, 1883:

"For the purpose of examining and reporting to Congress which of the navy-yards or arsenals owned by the Government has the best location and is best adapted for the establishment of a Government foundry, or what other method, if any, should be adopted for the manufacture of heavy ordnance adapted to modern warfare, for the use of the Army and Navy of the United States, the cost of all buildings, tools, and implements necessary to be used in the manufacture thereof, including the cost of a steam hammer, or apparatus of sufficient size for the manufacture of the heaviest guns."

Its report was made to the President February 16, 1884, and was by him transmitted to Congress, February 18, 1884. The conclusions reached by the Board after full investigation of the subject here and abroad are: The establishment of Government gun factories for both the Army and Navy, and the making a permanent and liberal appropriation by Congress for the specific purpose of providing artillery of modern types, this appropriation being a permanent one, to act as a stimulus to private steel manufacturers to enlarge their plant and make gun steel, the Government being a large purchaser. A special estimate for a permanent annual appropriation to carry out this recommendation of the Board was submitted by me, but Congress took no action thereon.

In the closing days of the last session both the Senate and House passed resolutions for the appointment of select committees of Senators and Representatives, respectively, to inquire—

"As to the capacity of steel-producing works in the United States to make steel of suitable quality, and sufficient in quantity to furnish metal for guns of high power * * * as to the character and sufficiency of machinery and machine tools in the navy-yards, and also in private foundries and machine-shops in the United States, * * * and for manufacturing guns for the proper armament, * * * of the sea-coast defenses, * * * into the best locations in the United States for manufacturing guns, * * * and the best method of manufacturing and building the same, whether by the Government or by contract with private persons."

The field of this inquiry is large and comprehensive, and includes all that is required for a complete understanding of the subject, and the best means of providing a remedy. The condition of our coast defenses is a matter of grave concern and calls for immediate action, and I indulge the hope that before the end of the ensuing session Congress will show to the country its appreciation of these national wants by a liberal and permanent annual appropriation.

ARMAMENT OF FORTIFICATIONS.

During the past year the construction of the several experimental guns commenced in 1883, under provisions of the act of March, 1883, has progressed as rapidly as circumstances, somewhat unfavorable, would permit. Owing to the discontinuance, for a number of years, of

the manufacture of cast-iron guns at the South Boston Foundry, numerous trials were requisite at the outset to work up the iron to a proper standard before the castings could be made. Later, the backwardness of foreign manufacturers in meeting their engagements for furnishing steel forgings has caused additional delay in the completion of these guns. It has now become practicable, however, to procure part of the forgings in question from the Midvale Steel Company, and an order has accordingly been given to that effect.

The 12-inch breech-loading rifle, cast-iron, has been cast, and is in such advanced stage of completion that it will soon be ready for trial.

The body for the 12-inch muzzle-loading rifled mortar has been cast and finished, and hoops of suitable quality procured from the Midvale Steel Company, and the work of hooping the mortar is now in progress at the South Boston Foundry. Prior to establishing the *shrinkages* to be used in the construction of this piece, it was deemed prudent to make an experiment of hooping a cylinder representing an actual section of the mortar in front of the powder chamber, by means of which it could be practically determined if the proposed *shrinkages* were suitable to the construction.

The Department has adopted this plan of hooping an experimental section for each new model of hooped gun, in order to compare the data derived from calculations purely, with the results obtained from direct experiment, and in that way to establish a reliable basis for the construction.

The experiments made last year with two experimental 10-inch muzzle-loading rifled mortars, obtained by shortening at the muzzle and rifling two 10-inch cast-iron smooth-bore guns, have demonstrated the practicability of employing some of our existing types of projectiles, in pieces of this type, with satisfactory results. From the same experiments a suitable character of rifling was also determined for the 12-inch mortar. This mortar should be ready for trial during the next month.

In casting the body for the 12-inch breech-loading rifle, cast-iron, lined with a wire-wrapped steel tube, an accident occurred that has proved a source of considerable pecuniary loss to the founders, and a serious set-back to the early completion of the gun. About an hour after the successful casting of the gun, the flask of the mold gave way, precipitating the superincumbent mass of molten metal into the pit, forming there when cold a solid cheese. After much labor this cheese has been removed—an operation that was much facilitated by the conical form of the pit—and the founders are now making fresh preparations for another cast. Owing to this mishap the casting of the body for the 12-inch rifle, cast-iron, hooped and tubed with steel, will follow next, since the patterns, flasks, &c., are already prepared.

The body for the 10-inch breech-loading rifle, cast-iron, wrapped with steel wire, has been cast and made ready for the application of the wire. The wire winding will be done at the Watertown Arsenal, where preparations are now being made for this purpose in consultation with, and on plans furnished by, Dr. W. E. Woodbridge.

Billets and bars for wire guns.

The billets for the wire have been procured from the Otis Iron and Steel Company, Cleveland, Ohio, and before acceptance by the Department were required to pass satisfactorily the following conditions as regards physical qualities, viz:

Tensile strength	31.5 tons per square inch.
Ultimate elongation.....	30 per cent.
Reduction of area.....	50 per cent.

The reduction of area in transverse test specimens 1.2 inches between shoulders to be at least 20 per cent., and the billets to be perfectly sound and free from flaws, cavities, or defects of any kind, and of a uniform quality throughout.

The accepted billets, weighing about 80 pounds each, have been sent to the Trenton Iron Company, Trenton, N. J., where they will first be rolled into rods one-half inch square, then annealed and drawn, without further annealing, into wire .15 of an inch square, having the corners rounded with a radius of about .01 of an inch, the ends of the wire being reversed in the process at each successive passage through the draw-plate. As a final operation the wire will be thoroughly tinned to prepare it for soldering.

The bars for the longitudinal staves of the 10-inch steel-wire breech-loading gun have also been manufactured by the Otis Iron and Steel Company, and subject to the same conditions as regards their physical qualities as the wire billets. These bars are now being annealed at the Washington Navy-Yard, after which they will be sent to the works of Jones & Laughlins, Pittsburgh, Pa., where they will be cold rolled to the size of 3.4 inches square.

Forgings of Whitworth & Co.'s steel.

The tube for the steel wire 10-inch breech-loading rifle; the tube and jacket for the steel 8-inch breech-loading rifle; the tubes for two 12-inch cast-iron rifles: two 12-inch rifle breech bushings, and four trunnion hoops were ordered of fluid pressed steel from Sir Joseph Whitworth & Co., Manchester, England, under date of May 29, 1883.

This order was accepted by cablegram under date of June 11, 1883, with an agreement to deliver all the forgings within five months' time, and by an after agreement the forgings for the 8-inch breech-loading rifle were to be delivered as soon as made. Up to the present time, nearly one year since the time of delivery agreed upon, there have been received from Whitworth & Co., only the forgings for the 8-inch breech-loading rifle and the trunnion hoops, and even these were not received until they were many months overdue, and after repeated remonstrances from the Department against the failure of the company to fulfill their engagements. After still further correspondence with Whitworth & Co., urging the prompt delivery of the balance of the forgings, and repeated assurances from the company of their speedy delivery, notice was finally sent, under date of October 2, that unless the balance of the order, and the new forgings to be substituted for the forgings already delivered but rejected by the Department as not being of standard quality, were delivered before December 1, 1884, the order would be withdrawn.

The results of tests of the gun forgings received from Whitworth & Co. under the above order, so far as tested, are exhibited in appendix 36. The trunnion hoop for the 12-inch mortar possesses very fair qualities, that for the 8-inch rifle very ordinary indeed, but it may be said on their behalf that a trunnion hoop is a difficult shape to forge.

The qualities guaranteed by Whitworth & Co. for the 8-inch breech-loading rifle tube and jacket were as follows, on specimens 2 inches in length between shoulders, viz: Oil tempered:

Elastic limit.....	21 tons.
Tensile strength.....	43 tons.
Elongation	15 per cent.
Reduction in area	30 per cent.

The above qualities to be considered as a minimum.

The physical qualities found by actual test of the 8-inch breech-loading rifle tube and jacket, made on specimens 3 inches between shoulders and taken tangentially from the breech end were as follows, viz:

	<i>Tube.</i>	<i>Jacket.</i>
Elastic limit	15.6 tons.	17.8 tons.
Tensile strength	37 tons.	37.4 tons.
Elongation	20.2 per cent.	22.8 per cent.

The tests of longitudinal specimens, 2 inches in length between shoulders, were scarcely better than the above, while the results from compression tests were even worse. The metal in both tube and jacket is quite irregular in quality, and only the exterior of the jacket gives any evidence of oil tempering.*

Full reports of the tests were forwarded to Whitworth & Co. about two months ago, and the forgings will be replaced by new ones.

The difficulties above recounted in procuring steel from abroad, even for experimental guns, makes manifest, without lengthy comment, the necessity for home production. It is hoped that the very pressing needs of the Department and the difficulties under which it now labors in attempting to secure suitable materials for gun construction, may be relieved through the prompt and energetic action of Congress at its next session. The steel makers of this country will not undertake the production of steel on a scale adequate to our wants, without the inducement of being fairly remunerated for their outlays; and the importance for *immediate* action on the part of Congress for holding out such inducements, by liberal appropriations, cannot be over-estimated. The truth of this statement is apparent when it is considered that, even after ample encouragement has been afforded, considerable time must elapse, say two years or more, before the requisite plant can be designed, constructed, and set up, and the production of steel in masses of sufficient size and of suitable quality for gun construction can become a practical success. Then the manufacture and test of the experimental or typical guns will require at least two years more, even for the more moderate-sized calibers, before the manufacture of guns in quantity can be proceeded with. It was under a clear apprehension of these facts and a deep conviction of the importance of saving time, that the Department determined to procure if practicable, the tubes, jackets, and trunnion hoops for the first experimental guns from abroad, hoping in that way to establish a starting point in the manufacture of steel guns, and thus avoid, so far as possible, the delay that must hereafter inevitably arise when steel shall be procurable in this country, for want of some well tested and definitely established types of gun construction as standards. Thus far its efforts in this direction have been attended with little success, nevertheless it will continue to persist in its purpose, believing that the importance of the object sought fully justifies such a policy. Types of guns, of at least 8 and 10 inches caliber, should be fully established by

* Since the above was written, tensile tests have been made on tangential specimens, 2 inches in length between shoulders, taken from the *muzzle* end of the 8-inch tube, with the following mean results:

Elastic limit	24.1 tons.
Tensile strength	44.5 tons.
Ultimate elongation	23 per cent.

These figures confirm the suspicions of Messrs. Whitworth & Co., as expressed in a communication to this office, that the low qualities found in the breech ends of tube and jacket were due to *overheating* in the annealing process, subsequent to oil-tempering. It was, perhaps, one of those accidents now and then almost unavoidable in steel manufacture, and in no wise affects the great reputation of Whitworth & Co., so long held and sustained, for the superior quality of their steel products.

the time that our steel makers are in a condition to furnish the steel required for such constructions, in order that there may be an immediate demand for their products.

Midvale steel hoops and breech blocks.

The steel forgings, for the guns now under construction, which the Department has been able to procure from American manufacturers—as the hoops, breech blocks, &c.—and whose production came within the capacity of existing plant, are of the very highest quality, and are an earnest of what excellence it may be expected will be attained here under larger facilities for manufacture.

The hoops for the steel 8-inch breech-loading rifle, the 12-inch muzzle-loading rifle mortar, the 12-inch rifle, cast-iron hooped and tubed with steel, most of the rings for the wire guns, and the forgings for the several breech blocks have been, or are now being, manufactured for the Department by the Midvale Steel Company, Nicetown, Philadelphia, Pa. The hoops are made from open-hearthed steel, either rolled or hammered into shape, according to their size, and afterwards oil-tempered and lightly annealed, as contemplated in the circular letter issued by the Department under date of April 3, 1883.

The results of some experiments made in 1883 with trial hoops, tempered and untempered, and the first tests made under the contract for supplying the Department with the hoops for the 12-inch mortar, gave rise to doubts as to the propriety of the treatment by oil tempering and annealing. There was evidence of a want of uniformity in the oil tempered hoop, and a deficiency in the requisite *stiffness* for the outer envelopes of a gun. The manufacture, therefore, of the 12-inch mortar hoops was suspended until some further trials and tests could be executed. But in the end the excellent qualities obtained in the hoops thus treated—oil-tempered, and annealed—was fully established (see Appendix 29), and that mode of treatment was definitely adopted for all the hoops under manufacture. The physical qualities as determined from the tests of tangential specimens, 6 inches between shoulders, are as follows, viz:

Elastic limit.....	25 to 30 tons.
Tensile strength.....	45 to 50 tons.
Ultimate elongation	12 to 16 per cent.

The above figures are fully equal to the highest claimed by Whitworth & Co. for the characteristics of their steel hoops.

In this connection I desire to accord to the managers of the Midvale Steel Works the high praise they have so justly earned through their intelligent and skillful methods of working and treatment, and by their untiring perseverance in experiment and research, in attaining at so early a period an equality with the very best known standards.

The hoop required for the 12-inch breech-loading rifle, cast iron, hooped and tubed, being of dimensions too great for the existing rolling-mill at the Midvale Steel Works, it became necessary to enlarge the mill and make new rolls. These hoops are now being turned out from the mill to finish to a length of 12 inches, the finished interior and exterior diameters being as follows, viz:

	<i>Interior diameter.</i>	<i>Exterior diameter.</i>
• Inner row	39.20	45.90
Outer row	45.90	53.70

The greater part of these hoops are now rolled, and, so far as the preliminary tests have been made, they equal in quality the smaller hoops for the 12-inch mortar and 8-inch rifle.

The forgings destined for breech-blocks, of the interrupted-screw type, were hammered endwise as well as laterally, and after being bored through were oil-tempered and annealed in the same manner as the hoops. The mean physical qualities as determined from tensile tests of tangential specimens, 3 inches between shoulders, were as follows, viz:

Specific gravity	7.8648
Hardness	20.64
Elastic limit	23.5 tons.
Tensile strength	44.2 tons.
Ultimate elongation	17.3 per cent.
Reduction in area	35.5 per cent.

The results from compression test of tangential specimens 12 inches in length were as follows, viz:

Elastic limit	21.7 tons.
Strength	28.4 tons.

Eight-inch converted rifles.

Substantial progress in the production of heavy ordnance being necessarily slow makes it expedient to utilize to the utmost any existing armament or available material on hand. The casemates and barbettes of most of our sea-coast defenses are at present adapted to the 10-inch smooth-bore cast-iron gun. The power of this 10-inch gun has been largely increased by converting it into an 8-inch rifle by means of a lining tube inserted into the bore. This converted gun has shown great endurance, and very considerable power of penetration. It has therefore been the policy of the Department for the past few years, with the approval of Congress, to manufacture annually a number of these 8-inch converted rifles to be substituted for the 10-inch guns in our forts, and until more powerful guns can be procured to replace in turn the 8-inch converted rifles. Heretofore the lining tube employed in the conversion has been of coiled wrought iron; the tubes being furnished solely by the West Point Foundry Association, Cold Spring, N. Y., and the insertion of the tubes with all later guns being through the breech. With a view of widening the field for competition, as well as of simplifying the construction, the idea was entertained that if a steel lining inserted through the muzzle could be employed both those ends would be fairly attained, and the cost of conversion be materially reduced. Accordingly, during the past year, a 10-inch gun was converted on this plan, the tube—an annealed forging from open-hearth steel—being furnished from the Midvale Steel Works.

In determining upon the physical qualities for the steel tube to be employed in such conversion, and which, for economical reasons, would be inserted loosely into the casing—with a slight play—regard was had to the qualities of the wrought-iron tubes, heretofore successfully used in like constructions. It was especially desirable that the steel should possess very considerable extensibility, even at the expense of great strength and high elasticity, in order that it might safely yield under the pressure of the powder gases until set out to a firm bearing against its cast-iron casing. The permanent extension of the metal thus produced should raise its elastic limit by the development of what has been termed the *special elasticity* of the metal; at the same time the casting, if not actually thrown upon a light tension, would form a rigid support to the further extension of the tube, and thus the gun as a whole would be in the best possible condition for resistance.

The desired qualities for the tube, it was thought, would be more readily obtained from a forging that had been annealed simply, and not oil-

tempered and annealed, though the opinion of the steel makers now is that equally satisfactory results would be obtained by the latter method. The tensile tests of tangential specimens, 3 inches long between shoulders, taken from both ends of the annealed forging for the tube, gave the following mean results, which were deemed satisfactory, viz :

Elastic limit.....	17.2 tons.
Tensile strength	35.7 tons.
Elongation	24.3 per cent.
Contraction of area.....	34.6 per cent.

With metal possessing these physical qualities, the elastic limit of the tube, computed in the usual way, should be from 7 to 7½ tons, and consequently the pressure due to any charge likely to be fired from the gun would be more than sufficient to permanently *set out* the tube about the seat of the charge; with a charge of 45 pounds, probably the maximum that would be used, the permanent enlargement should extend fully half-way up the bore, at least under repeated firings. To the enlargement produced by the direct pressure of the powder gases must be added any that may be due to balloting of the projectile, &c., to a mandrelling action, so to speak, of its sabot, so that we should expect a close contact to result between tube and casing, coextensive nearly with the whole length of the bore.

The work of conversion was done at the South Boston Foundry (see Appendix 26,) and after its completion the gun was sent to the Proving Ground, Sandy Hook, N. J., and turned over for trial to the Board for Testing Rifled Cannon, &c., appointed under the act of July 5, 1884. The gun has been fired five hundred rounds and still remains in good condition, and the Board has pronounced favorably upon this mode of conversion (see Appendix 21). Bids have therefore been invited this year for furnishing the materials for, and doing the work of, converting fifty 10-inch smooth-bore guns into 8-inch rifles by lining either with a coiled wrought-iron or a forged steel tube, and that plan of conversion will be adopted which presents the greater economy.

Alterations of sea-coast carriages.

The work of adapting the carriages for the 15-inch smooth-bore guns to the increased charges now employed, as provided for under the act of March, 1883, has been steadily carried on at Watertown Arsenal; also the adaptation of the same carriage to the 11-inch muzzle-loading rifle, and the alterations of the 10-inch barbette and casemate carriages for the service of the 8-inch converted rifles. Some preparations were requisite before this work could proceed, and much of the outlay last year was for materials. As a consequence, but few completed carriages have thus far been turned out from the Watertown shops, although the character of the work done at this arsenal has been of the best quality, and reflects great credit on that establishment.

Breech-loading devices.

Of the two breech-loading devices selected under the law for test, the Mann was completed and sent to the Proving Ground, Sandy Hook, N. J., early in August. The Mann gun is of 6.5-inch caliber, and was made by lining a 10-inch smooth-bore cast-iron gun with a tube of Whitworth fluid-pressed steel, and applying the Mann breech mechanism, also chiefly made from Whitworth steel. The work of manufacture was done at the South Boston Foundry (see Appendix 25), under the personal supervision of Mr. Mann himself, with whom the contract for the gun had been made. The tube for this gun and the forgings for the

breech mechanism were of superior quality, and attest to the excellence of the Whitworth steel where due care has been exercised in its manufacture. The mean physical qualities of the tube obtained in tensile tests of tangential specimens, 2 inches long between shoulders, were as follows, viz:

Specific gravity.....	7.866
Hardness.....	25.7
Elastic limit.....	24 tons.
Tensile strength.....	45.8 tons.
Ultimate elongation.....	16.3 per cent.
Reduction of area.....	31.4 per cent.

The tensile tests of specimens, 4 inches long between shoulders, taken from the steel transom or cross-head of the breech mechanism gave the following results:

Elastic limit.....	22.8 tons.
Tensile strength.....	41 tons.
Elongation.....	23 per cent.
Reduction of area.....	27 per cent.

The qualities in the forgings for the breech straps were equally as good as the above.

The trial of this gun commenced in September under the supervision of the Board for Testing Rifled Guns, Mr. Mann being in attendance and concurring in the programme pursued. The largest charges used were from 37 to 40 pounds of powder, with a projectile of 109 pounds weight. The highest recorded pressure was 27,500 pounds per square inch, the corresponding velocity being 1,735 feet; the charge in this instance was 40 pounds of powder. At the twenty-fourth round the breech of the gun was blown off, the massive steel cross-head being fractured about 3 inches from its left tenon, and with the breech screw was thrown as a single fragment 54 feet to the rear, passing through a heavy timber screen; the cast-iron breech-block proper was broken into a number of fragments. The charge used at this round was 37 pounds of powder, with a projectile weighing 109 pounds; the pressure was lost, as the pressure-gauge was blown out of the gun and destroyed, but the recorded velocity, 1,748 feet, indicated that the pressure was about the same as in previous rounds. Section 2 of the act of July 5, 1884, under which the Board for Testing Rifled Guns, of which Col. T. G. Baylor is president, was constituted, provides that hereafter all rifled cannon manufactured at the cost of the United States shall be publicly subjected to the proper test for the determination of the endurance of the same, to the satisfaction of the President of the United States, or such persons as he may select, and authorizes him to select five persons who shall be skilled in such matters; it provides further, if such guns shall not prove satisfactory they shall not be put to use in the Government service. In accordance with these provisions of the law the Board reports on the trial of the 6.5-inch Mann gun that "This gun having burst at the twenty-fourth round its endurance was not satisfactory to the Board, and hence it cannot recommend that it be put to use in Government service."

The full report of the Board and of the trial of the gun is contained in Appendix 23.

The Yates gun is of 8-inch caliber, and will also consist of a 10-inch smooth-bore cast-iron gun, suitably modified, and with the attachment of the Yates breech mechanism. The work is being done at the South Boston Foundry but has been much delayed from the difficulties experienced in procuring suitable material for this peculiar construction.

The steel castings procured from the Midvale Steel Company for the breech mechanism developed, in finishing, sand holes that caused their rejection, but a second set has been procured and found satisfactory. The first tube also, obtained from Firth, of Sheffield, England, was rejected for erroneous dimensions; and a second tube has been ordered from the Nashua Steel Works, Nashua, New Hampshire.

Multicharge gun.

The firings with the Lyman-Haskell multicharge gun were discontinued after the thirty-third round on account of the development of a crack in the inner tube, that extends from a short distance in front of the foremost pocket to the muzzle of the gun. This gun is, however, being repaired by the addition of steel hoops to the chase portion surrounding the crack, and before long will be ready for further trials.

The views in full of this Department of the merits of the multicharge gun, as a high-power weapon suitable for the public service, as derived from the trial of the gun, under the personal management and supervision of Mr. Haskell, up to the time the gun was disabled, will be found in Appendix 20. Briefly speaking, the results as yet are very far from fulfilling expectations; indeed the actual power thus far realized is small in proportion to the weight of the gun, and to the weight of its charge, as compared with the results from contemporary single-charge steel guns.

Steel castings.

During the past spring the Otis Iron and Steel Company submitted a proposition to the Department to furnish at their own expense a rifled gun of from 8 to 10 inches caliber, made from a steel casting and unforged, provided the Department would undertake the test of such gun. It was proposed to cast the gun, bore it, and afterwards heat it up and cool it from the interior, with the object of improving the metal and securing an initial tension, after the manner of iron guns cast on the Rodman plan.

The Department did not entertain very sanguine hopes in the success of such a project in the present state of the art of producing steel castings, but thought that if reasonably good results could be obtained, perhaps the bodies of guns might be manufactured in this way of steel instead of cast iron, and by the application of rolled or hammered hoops to the exterior add sufficient strength to make a fairly good gun. But as a preliminary step and as a means of enabling it to judge of the value of this method, it was deemed best, after consultation with the Otis Iron and Steel Company, that an experimental steel cylinder should first be cast, and after treatment in the manner proposed, be cut up and subjected to mechanical test on the machine at Watertown Arsenal. Such a cylinder was accordingly cast, and of the following dimensions:

Length	60 inches.
Exterior diameter	24 inches.
Interior diameter.....	6 inches.

The results of the physical tests made at Watertown Arsenal are given in Appendix 30. They show very fair qualities for the lower portion of the cylinder, but which deteriorate rapidly in proceeding upwards and become quite poor at the top—as regards uniformity, elongation, and reduction of area. An initial tension of 16,000 pounds per square inch was obtained by interior cooling. On the whole, the results

were not very satisfactory, but as this was the first trial of producing a cylinder simply by casting, it must be said that the results are by no means discouraging. From the experience and knowledge now gained a much better result should be expected in a second casting, especially if as proposed by the company, fluid compression of the metal is resorted to. Could sound castings be obtained with certainty, doubtless a very fair gun would be produced by their use, without a very great outlay for plant, though experience alone can show whether if proved inferior to forged steel there would be a proportional economy in guns so made over the stronger constructions, and therefore more powerful weapons made from forged and tempered steel.

Prismatic powders.

The now well-recognized superiority of molded powders of prismatic form with a central perforation, induced the Department to consider the expediency of undertaking their manufacture in this country. To this end the Messrs. Du Pont de Nemours & Co. were communicated with, and furnished with such information regarding the construction of powder presses, and the manufacture of prismatic powder, as the Department had at its disposal. The Messrs. Du Pont readily assented to the proposition of the Department, to undertake the manufacture of such powders, and for some months past have been engaged constructing a suitable press. All the necessary arrangements for the manufacture of prismatic powders will probably be completed by the end of October.

In this connection the attention of the Department having been attracted to the remarkable results obtained abroad from the so-called Brown or Cocoa prismatic powder, of German manufacture, several samples were procured for trial with heavy guns. Samples of the same were also supplied to the Messrs. Du Pont, who now have this species of powder under investigation, and it is expected that at an early day they will be able to furnish prismatic powders giving results equally as good as have been obtained with the German Cocoa powders.

Obturating primers.

The rapid deterioration of the vent of heavy guns, in firing the large charges now in vogue, renders it indispensable that some vent-sealing device be employed to prevent the rush of gas through the vent. The most convenient way of effecting this obturation of the vent is through the action of the primer by which the piece is fired. Three forms of an obturating primer have been manufactured recently at the Frankford Arsenal, and are to be subjected to tests at the Proving Ground. Two of these primers are of the class known as friction primers, and are closely allied to the Krupp obturating friction primer; the third is an electric primer and was designed at the Frankford Arsenal.

Protection of torpedo lines.

For experiments in this direction the Department procured last year a Hotchkiss 47 mm. single barrel shoulder gun, and a Hotchkiss 53 mm. revolving cannon. Owing to delay in procuring suitable powder, and the more pressing urgency of other work, no extended trials with these guns have as yet been made; they will be taken in hand, however, early in the coming year.

A table of data respecting the Hotchkiss single barrel guns furnished by Mr. Hotchkiss is exhibited in Appendix 24.

Experiments with high explosives.

The fortification bill approved July 5, 1884, provides that a sum not exceeding fifteen thousand dollars “ may be used for the expenses of experiments in the use of dynamite or other high explosive projectiles,” and the Department has given all proper assistance and encouragement to private parties having designs or inventions that promised success. The trials thus far have been tentative merely, and nothing has been developed that calls for any detailed mention.

Experiments have been made during the year by the Ordnance Board in firing shells charged with explosive gelatine from service guns. The practicability of making such firings, using ordinary gunpowder as the propelling agent, with safety and certainty seems now almost assured. Some 8-inch steel shell have been ordered with a view to increasing the penetration in iron plates, and with the expectation that the explosive effect of the gelatine will thereby be considerably augmented.

STEEL GUNS AND CARRIAGES FOR FIELD SERVICE.

The steel 3.2-inch breech-loading gun designed by the Ordnance Board is now under trial by the Board for Testing Rifled Guns, &c. The gun is made from open-hearth steel, supplied by the Midvale Steel Company, and consists mainly of a steel tube, forged and annealed, a steel jacket, forged and oil tempered, a trunnion hoop, which is an oil-tempered steel casting, and a sleeve and a key ring of forged and oil-tempered steel. The length of bore is 26 calibers, the weight 793 pounds, and the rifling consists of 24 grooves, having a uniform twist of one turn in thirty calibers. The gun was manufactured at the Watertown Arsenal (see Appendix 33), under the supervision of Major Parker.

The experimental character of this gun necessitated a number of changes in details during its manufacture ; but as the work was being done at a Government shop no material expense was thereby incurred. Indeed, the changes made, which were veritable improvements on the original design, were suggestions mainly from the Officers of the Department entrusted with the manufacture. Mention is here made of these facts as showing, from the satisfactory character of the result, the wisdom of prosecuting purely experimental work at some Government establishment.

Prior to being turned over to the Board for Testing Rifled Guns, &c., the gun was fired some sixty rounds under the direction of the Ordnance Board. (See Appenpix 14.)

The results obtained with 3½ pounds of powder and a 13-pound projectile are thus summarized:

Initial velocity.	Pressure.	Energy.				
		Total.	Square inch of cross section.	Per pound of powder.	Per pound—weight of piece.	Per cent. realized.
Feet.	Pounds per sq. inch.	Foot-tons.	Foot-tons.	Foot-tons.	Foot-pounds.	
1635	29116					
Mean of 18 rounds...	Mean of 25 rounds.	241. 20	29. 99	68. 91	681. 53	76

Accnracy of fire at a target 20 by 40 feet at 1 mile distance:

Mean vertical deviation 3. 63 feet.
Mean horizontal deviation..... 3. 23 feet.
Mean deviation 4. 26 feet.

Pressure and velocity with 3.5-pound charges and 13-pound projectile:

Number of rounds.	Velocity 100' from muzzle.	Pressure per square inch.	Remarks.
Mean of 6 rounds	1605	27, 375	Using Froyre gas check.
Mean of 6 rounds	1620	29, 950	Using De Bange gas check.

These results are deemed extremely favorable as compared with the firing of similar guns in European services. (See Appendix 14.)

The gun has been fired in all, thus far, two hundred and forty-four rounds, and without any apparent injury or deterioration whatever. The results of the firings are embodied in the progress report of the Board for Testing Rifled Guns, &c. (See Appendix 22.)

As is usual with experimental work, doubtless the *trials* will indicate some slight modifications still to be made in the definite model of the gun.

The new steel field carriage now being used in the trial of the 3.2-inch breech-loading gun was manufactured by Lieutenant Colonel Mordecai at the Watervliet Arsenal. (For description, see Appendix 34.) It has developed some points of weakness during the firings, but of a nature such as to admit of remedy in future constructions.

As it is but rational to anticipate the success of this field gun and its carriage, an estimate has been submitted and an appropriation is asked for to enable the Department to continue their fabrication to arm the light batteries of our Army with a modern breech-loading field gun and carriage.

During the past year a copper-banded projectile has been tested with the 3.2-inch field gun and has given excellent results, and other banded projectiles of larger caliber are under fabrication for experiment; a suitable shell and shrapnel for the field service have also been devised and tested, and point time and percussion fuses have been adopted; experiments with base percussion fuses are still in progress.

These various trials have been conducted under the able supervision of the Ordnance Board, consisting of Col. T. G. Baylor, Maj. G. W. McKee and Capt. Chas. Shaler, who have in most instances prepared the designs to be tested. This Board has thus done most excellent work in establishing standards for construction and supply of suitable ammunition for field and sea-coast service, in designing a field steel gun which has already given fair promise of ultimate success, and, in connection with Maj. F. H. Parker, commanding the Watertown Arsenal, in remodeling our existing outfit of wrought-iron sea-coast carriages to adapt them to the larger charges now employed or to the introduction of the converted rifled guns.

Full records of the very accurate tests of the material procured by the Department for gun construction will be published in the forthcoming report on the Tests of metal made at the Watertown Arsenal during 1884.

Reference has been already made to the reports by officers of the Department, which directly pertain to the duties of this office, and to the manufacture of cannon, and I invite special attention to those of unusual interest and value made by—

Captain Lyle, on the construction of the 6.5-inch Mann breech-loading gun. (Appendix 25.)

Lieutenant Birnie, on fabrication of coiled wrought-iron tubes for

8-inch rifle conversions, and of life-saving mortars. (Appendices 27 and 28.)

Lieutenant Borup, on construction of the 8-inch converted rifle, steel lined. (Appendix 26.)

Lieutenant Bruff, on construction of the 3.2-inch steel breech-loading field gun. (Appendix 33.)

Lieutenant Medcalf, on manufacture of billets for steel wire, at the Otis & Co.'s works. (Appendix 30.)

Lieutenant Hobbs, on manufacture of steel hoops, steel tubes, &c., at the Midvale Steel Works. (Appendix 29.)

I have thus given, in brief, an idea of the labors of this Department, during the year, in the line of gun construction. The exhibit is an encouraging one, and evidences excellent results of the intelligent study and experience in practical details of the officers entrusted with this most important branch of the ordnance service. There is no reason to doubt their ability to grapple with success the most difficult theoretical and practical problems of heavy gun construction. Should Congress, after full investigation and consideration, determine on appropriations liberal enough to encourage the manufacture of gun steel and to procure the plant for gun factories, for the proper and speedy armament of our coast defenses, the country can rest secure in the belief that this Department, through the labors of its officers, will attain the same prominence in this regard that it held twenty five years ago.

In this connection, I take great pleasure in highly commending Capt. C. S. Smith, in charge of the construction division of this office, for distinguished merit and most thorough and efficient services.

THE MILITIA.

So much has been already written and recommended in previous reports on the great importance of encouraging the formation of volunteer organizations throughout the country, by a large increase of the annual appropriation for arming and equipping the militia, and the passage of the bill in the Senate and the action of the House pointing to a favorable result, any further discussion of the matter seems unnecessary.

It is interesting, however, to note the opinion of General Washington, in a circular letter to the governors of the several States, from his headquarters, Newburg, June 18, 1783. He says:

"As there can be little doubt but Congress will recommend a proper peace establishment for the United States, in which a due attention will be paid to the importance of placing the militia of the Union upon a regular and respectable footing, if this should be the case, I should beg leave to urge the great advantage of it in the strongest terms.

"The militia of this country must be considered as the palladium of our security, and the first effectual resort in case of hostility; it is essential, therefore, that the same system should pervade the whole; that the formation and discipline of the militia of the continent should be absolutely uniform; and that the same species of arms, accouterments, and military apparatus should be introduced in every part of the United States. No one, who has not learned it from experience, can conceive the difficulty, expense, and confusion which result from a contrary system, or the vague arrangements which have hitherto prevailed."

That the Senate bill now pending in the House may become a law, is recommended in the strongest terms.

• UNITED STATES TESTING MACHINE.

Maj. F. H. Parker, commanding the Watertown Arsenal has made his report of tests of iron, steel, and other materials for industrial pur-

poses for the past fiscal year. The report will be submitted to you for transmission to Congress at the opening of the next session, as required by law.

The number of public tests made during the year was 1,424, and in addition 411 tests for private parties were made, making a total of 1,835 tests. More than three-fourths of the tests made were for Government service, and unless an additional machine is provided, as estimated for, all private tests will have ere long to be discontinued. The fact that during the year the machine was disabled and undergoing repairs for a period of forty-one days, is the strongest argument in favor of additional facilities for the prosecution of such important work.

I have the honor to submit the following papers, heretofore referred to:

Appendix 1. Statement of principal articles procured by fabrication during the year ended June 30, 1884.

Appendix 2. Statement of principal articles procured by purchase during the year ended June 30, 1884.

Appendix 3. Statement of ordnance, ordnance stores, &c., issued to the military establishment, exclusive of the militia, during the year ended June 30, 1884.

Appendix 4. Apportionment for the fiscal year ended June 30, 1884, of the annual appropriation of \$200,000 for arming and equipping the militia, under sections 1661 and 1667, Revised Statutes.

Appendix 5. Statement of ordnance, ordnance stores, &c., distributed to the militia from July 1, 1883, to June 30, 1884, under section 1667, Revised Statutes.

Appendix 6. Statement of arms, ammunition, &c., distributed to the Territories and States bordering thereon from July 1, 1883, to June 30, 1884, under the joint resolutions of July 3, 1876, March 3, 1877, and June 7, 1878, and the act of May 16, 1878.

Appendix 7. Statement of ordnance, ordnance stores, &c., distributed to colleges from July 1, 1883, to June 30, 1884, under section 1225, Revised Statutes.

Appendix 8. Report of action taken during the year ended June 30, 1884, under the provisions of the act approved March 3, 1881.

Appendix 9. The oxidation of metallic parts of the Springfield rifle.

Appendix 10. Report of the principal operations at the Rock Island Arsenal, Illinois, during the fiscal year ended June 30, 1884. (2 plates.)

Appendix 11. Report of the principal operations at the United States Powder Depot, Dover, N. J., during the fiscal year ended June 30, 1884. (3 plates.)

Appendix 12. Description of the rod bayonet and attachment, and front and rear sight for the Springfield rifle, model 1884. (1 plate.)

Appendix 13. Report of artillery practice at the Narrows, New York Harbor. (3 plates.)

REPORTS OF THE ORDNANCE BOARD.

Appendix 14. Partial trial of 3.2-inch breech-loading steel rifle. (4 plates.)

Appendix 15.—Report on solid-band shell for 3.2-inch breech-loading steel gun. (7 plates.)

Appendix 16.—Report on shrapnel and shell for 3.2-inch breech-loading steel gun. (2 plates.)

Appendix 17.—Trial of 10-inch rifled mortars Nos. 1 and 2. (8 plates.)

Appendix 18.—Trial of the improved Gardner gun, caliber .45. (13 plates.)

Appendix 19.—Progress report on explosive gelatine. (2 plates.)

Appendix 20.—Report on the Lyman-Haskell multicharge gun.

REPORTS OF THE BOARD FOR TESTING RIFLED CANNON APPOINTED
UNDER THE ACT OF JULY 5, 1884.

Appendix 21.—Trial of an 8-inch muzzle-loading rifle, lined with a steel tube—converted from a 10-inch smooth-bore Rodman gun.

Appendix 22.—Trial of 3.2-inch breech-loading steel rifle. (1 plate.)

Appendix 23.—Trial of H. F. Mann's 6½-inch breech-loading rifled cannon. (5 plates.)

ORDNANCE CONSTRUCTION.

Appendix 24.—Table of the Hotchkiss single-barrel rapid firing non-recoil guns.

Appendix 25.—Construction report of the 6½-inch Mann breech-loading rifle. (1 plate.)

Appendix 26.—Construction report of an 8-inch rifle converted from a 10-inch smooth-bore Rodman gun by lining with a steel tube. (1 plate.)

Appendix 27.—Report on the manufacture of coiled wrought-iron tubes and the conversion of 10-inch smooth-bore Rodman guns into 8-inch rifles. (7 plates.)

Appendix 28.—Report on the manufacture of life-saving guns and projectiles. (5 plates.)

Appendix 29.—Report on the manufacture of the Midvale steel forgings for gun construction.

Appendix 30.—Report on the manufacture of billets and bars and a steel casting for gun construction at the Otis Steel Works. (1 plate.)

Appendix 31.—Report on physical properties of materials for gun construction at the South Boston Iron Works.

Appendix 32.—Report on the manufacture of projectiles and sabots. (6 plates.)

Appendix 33.—Report of manufacture of 3.2-inch breech-loading steel rifle at Watertown Arsenal. (14 plates.)

Appendix 34.—Report on construction of metallic field carriages for 3.2-inch breech-loading rifles. (3 plates.)

Appendix 35.—Description of the Piper field and siege gun. (5 plates.)

Appendix 36.—Tests of Whitworth steel for 8-inch breech-loading rifle and 12-inch rifled mortar.

Appendix 37.—The barbette carriage for 15-inch smooth-bore gun and 11-inch rifle. (2 plates.)

Appendix 38.—Proposed 10-inch steel breech-loading rifle. (1 plate.)

Appendix 39.—Showing the stations and duties of the officers of the Ordnance Department.

I have the honor to be, very respectfully, your obedient servant,
S. V. BENÉT,

Brigadier-General, Chief of Ordnance.

To the Hon. SECRETARY OF WAR.

REPORT OF THE SECRETARY OF THE NAVY.

NAVY DEPARTMENT,
Washington, December 1, 1884.

To the President:

SIR: Of the new unarmored steel cruisers—the Chicago, of 4,500 tons, the Boston and Atlanta, of 3,000 tons each, and the Dolphin, of 1,500 tons—authorized by Congress as an increase of the Navy, only the last has been completed.

The Dolphin is a dispatch-steamer, to be armed with one 6-inch modern rifled gun and six Hotchkiss cannon. Her keel was laid October 15, 1883, and she was launched at Chester, Pa., April 12, 1884. At the preliminary contract trial on November 20, to test the machinery, while at a displacement of 1,279 tons, 221 tons less than the load displacement, she developed a speed of sixteen knots per hour, and an engine-power of 2,141 horses; and she fully meets the expectations of her designers and of the Department. A fracture of her shaft delays the formal acceptance from the contractor. After receiving her armament and stores, she will undergo a further trial in Narragansett Bay, under the system lately adopted by the Department.

The cruisers Boston and Atlanta are well advanced in all their parts. The Atlanta was launched October 9, with a displacement at launching draft of 1,279 tons, and the Boston is ready for launching. The steel boilers of both vessels are completed and the machinery is now being fitted.

The keel of the cruiser Chicago was laid December 15, 1883. Up to November 22, 1884, 1,045 tons of material had been worked into her hull, and she may be considered, in both hull and machinery, as being seven-tenths completed.

The Naval Advisory Board has in the course of its duties inspected and tested about 8,000 tons of mild steel for the new vessels. It has been shown that our steel-makers can readily furnish this excellent structural material in large quantities, and its high quality has been assured by the tests adopted. The experience gained in these tests will, it is hoped, be made of permanent value to the Navy and to the manufacturers through the report of the Board.

The law requiring the ships to be built of steel of great tensile strength and ductility has been complied with, and rigid chemical and physical tests applied to the material, causing much difficulty and delay and extra expense to the contractor, owing to his losses from rejected material, which, as in the case of the broken steel shaft of the *Dolphin*, was imperfect only because of the inexperience of our steel manufacturers in producing metal of prescribed strength and ductility combined. Patience, forbearance, and liberal treatment of the manufacturers are necessary in order to encourage them to undertake the development of the production in this country of steel plate and armor for naval vessels and ingots for heavy cannon.

The designs for the four cruisers, recommended by the Advisory Board and approved by the Department, were subjected from the beginning to loud and vehement criticism in certain quarters. This was only to be expected. It is rarely that designs of ships for the Government, either in this country or in Europe, escape severe animadversion. In a construction so complex as a modern ship-of-war, involving the application of so many theories based on what are as yet imperfect investigations, it is unavoidable that some diversity of opinion should be found among professional constructors, whether the designs represent progressive or conservative ideas. It is worthy of note that while in this country it was held by some objectors that the ships had too little sail-power, in England they were thought to have too much; and it may be said in general that if all the special points criticised had been altered to meet the views of any single critic, an equally violent opposition to the modified designs would immediately have manifested itself.

The reiteration of objections to the proposed cruisers in newspapers and elsewhere had the effect of disturbing public confidence for a time in the designs. The Naval Committee of the Senate, however, in considering the bill (Senate 698) "to authorize the construction of additional steel vessels for the Navy," was led to make a careful and exhaustive inquiry in reference to the plans adopted by the Department for the vessels then under construction. After having called for and received many oral and written statements from the Secretary of the Navy, the Admiral of the Navy, the members of the Advisory Board, the principal chiefs of bureaus, and other officers, the committee (in their report, No. 161, of February 12, 1884,) arrived at the following conclusion:

"The inquiry developed some difference of opinion upon certain special points connected with the new cruisers, such as the requisite amount of sail-power, the expediency of sheathing the bottom, the beam-engines and the furnaces of the *Chicago*, and the open fore-castle and poop-deck in the *Boston* and *Atlanta*, due to the position of the deck-house inclosing the battery.

"While it may be worthy of consideration whether it is desirable to follow the plans adopted for the vessels now under construction in all minute details, about which a diversity of opinion might reasonably be expected to exist among experts, nothing has appeared to show that the

confidence of the Navy Department and of the Advisory Board in the success of these vessels is misplaced."

Continued examination of the subject has confirmed the Department in the opinion that the criticisms advanced against the new ships were either of little moment or based directly upon theories at variance with the progress of modern ship-building. The opinion is further strengthened by an observation of what has been done abroad during the past year. It may be well, however, to consider briefly the validity of the principal objections.

1. The want of full sail-power.

It is now generally admitted that masts and sails are detrimental to the fighting qualities of a naval vessel, and it is mainly on account of their value for purposes of training, and for the sake of economizing coal in time of peace, that they are retained in recent constructions. The British Admiralty has gone so far that it is now building steel cruisers, of which the *Mersey* and *Severn* are types, absolutely without masts or sails. In this country the public mind is not yet accustomed to the fact that masts and sails are a source of weakness in action, and it may be expected for some time to come that popular objections will be raised to vessels built without them, on the ground that they form the sole reliance for propulsion in the event of a failure of the machinery. The system now adopted, however, of providing each vessel with twin screws, and with two complete and independent sets of machinery, reduces the chances of a total failure of the mechanical means of propulsion to such an extent as to make it an almost impossible contingency.

2. The absence of sheathing.

In this respect, also, the Advisory Board finds itself in accord with the most distinguished European designers. The three cruisers now building or lately completed at the Elswick Works in England, the *Giovanni Bausan*, for the Italian Government, and the *Arturo Prat* and *Esmeralda*, of about 3,000 tons each, are unsheathed, as are also the cruisers of the *Leander* and *Mersey* classes, of about 3,600 tons, eight of which have been laid down by the British Admiralty since 1880. It was decided not to sheathe our new cruisers, on account of the additional cost, the great difficulty of preventing galvanic action between the iron and copper, and the increase, estimated at 12 or 15 per cent., in the weight of hull, and consequent reduction in the efficiency of a ship of given displacement; while, on the other hand, it appears that the steel bottom can be made as serviceable as a copper one, by the use of anti-corrosive paint, which can be kept clean on ordinary service by the ship's divers.

3. The machinery of the *Chicago*.

It was frequently asserted that the beam-engines and brick furnaces of the *Chicago* were a more than doubtful experiment, and that the vessel would consequently prove a failure. This assertion is met by

the fact that, in February last, the *Louisiana*, of the Cromwell line of steamers, a vessel fitted with beam-engines and externally-fired boilers with brick furnaces, made the passage between New York and New Orleans, from wharf to wharf, in five days and fifteen hours, being the fastest passage on record; and that since that date, after certain modifications in her boilers borrowed from the *Chicago's* design, she has given more economical results, and shown herself to be in these respects a thoroughly satisfactory vessel.

4. The peculiar features of the *Boston* and *Atlanta*.

The objections most strenuously urged against these vessels, apart from their rig and consequent reduced sail-power, were, first, that in the absence of topgallant forecastles and poop-decks, their speed would be reduced by forcing their bows into the sea, and that the sea would be likely to roll on board aft, as they ascended into it; and, secondly, that in working ship, no sufficient protection would be afforded to the men who must be on deck in all weathers. It was claimed that a better vessel could have been designed by putting on a topgallant forecastle and poop-deck, and placing the main part of the battery on the open deck, surrounded by high bulwarks in the usual corvette style.

The assertion that the absence of a topgallant forecastle would decrease the speed when running against a head wind and sea hardly requires an answer, for it is well known by seamen that such a result is induced rather than obviated by high upper-works forward, which expose a greater surface to wind and waves as the ship pitches. For this reason the fastest blockade-runners had a low turtle-back forward. The bow of the *Boston* and *Atlanta* is sufficiently high for ordinary cruising purposes; while the protection of the men, which in a full sail-power corvette is given by the high forecastle and poop, is fully secured by the central superstructure. Even if there were any weight to the objections, they are offset by the overwhelming advantages of the arrangement in giving an extensive and unobstructed train to the guns, and therefore an increased efficiency in the battery.

Since the design of the *Boston* and *Atlanta* was adopted, the Government of Chile has received from the manufacturers, Sir W. G. Armstrong, Mitchell & Co., of Elswick, England, a new steel cruiser, the *Esmeralda*. This vessel, designed, constructed, armed, and equipped for sea by the foremost ship-building firm in the world, represents the latest development of the type of steam-cruiser, as understood by those who are acknowledged, in experience, judgment, and skill, to occupy the highest place in the profession. In all essential points the design of the *Esmeralda* presents a striking resemblance to the *Boston*, and the adoption of the type by the independent action of different designers is not so much a remarkable coincidence as a simultaneous recognition, by high authorities, of the requirements of a modern war steamer, and of the design adapted to fulfill them. Both vessels are unarmored steel cruisers, with protective decks and water-tight subdivisions, and

without wooden or copper sheathing. They have the same dimensions, being 270 feet long, 42 feet beam, and of 3,000 tons displacement. In both, the topgallant forecandle and covered poop have been done away with. The main-deck of the Boston and Atlanta is 10 feet above the water-line at the stem, and that of the Esmeralda is reported to be about 11 feet, while the latter is without the Boston's low bulwark forward. In sail-power the Chilian vessel is considerably below our cruisers, having barely enough to steady her in a seaway.

The battery of the Esmeralda is somewhat heavier than that of the Boston, but its disposition and the arrangement for protecting the guns are such that this difference would probably be counterbalanced in close action.

In general, it may be said that while each vessel presents some special features which give it an advantage over the other, there is a remarkable resemblance between the two models, and certain of the points in favor of the Esmeralda, such as reduced sail-power and twin-screws, are precisely those which the opinion of irresponsible critics has been ready to condemn in some of the designs of the Advisory Board.

It is safe to say that in preparing plans for the new cruisers which it is hoped will be authorized by Congress, any new features of construction which the ingenuity of foreign designers may devise will be immediately considered by the Advisory Board, and will be adopted if they promise any advantages.

Popular criticism of the new cruisers has been principally directed against their lack of extreme speed, and they have been unfavorably compared with the fleetest of those famous North Atlantic passenger steamers which are making such rapid passages between New York and Queenstown. The comparisons are unfair. These latter vessels are from 8,000 to 11,000 tons displacement, 450 to 550 feet in length, developing from 7,000 to 11,000 horse-power, and burning from 150 to 300 tons of coal per day; and their extraordinary speed is attained only by the sacrifice of qualities essential for the purposes of general naval service. Their machinery rises, unprotected, above the water-line, their great draft is an element of obstruction and danger in coast operations, and their length is an obstacle to freedom of maneuvering.

On the other hand, the naval vessels, the Chicago, of only 4,500 tons, and the Boston and the Atlanta, of only 3,000 tons, combine all the necessary qualities of unarmored war ships; they are short and capable of quick maneuvering; their machinery is below the water-line; they have a large coal supply in proportion to their displacement, and are provided with the means of so forcing the consumption of fuel that a high speed can be maintained for a short period, and they will thus be enabled by the use of long-range and machine cannon to overhaul almost any vessel they may fall in with at sea. No armed merchant steamer could withstand them, and they are capable of overtaking ninety-six per cent. of the merchant steamers of the world.

No nation possesses war vessels equal in high-speed endurance to the great passenger-carrying ocean racers; a war vessel which could overtake them must be built like them, and would be unfit for ordinary cruising. If the English Government were to require one for use in war, it would employ one belonging to its subsidized lines. If the United States would have vessels of the same class available for special exigencies, it must follow the English policy, and give substantial encouragement to the construction and maintenance of fast steamships by American companies.

The reasons why it is not advisable for us at this time to construct even one such expensive war vessel are stated by the Advisory Board in its report of October 25, 1883, and contained in the last annual report of the Department, as follows:

"It [the Board] condemns any policy looking to the present construction of cruisers that shall rival in speed the fastest transatlantic steamers. The merchant steamers having this exceptionally high speed comprise less than one-hundredth part of the ocean steam-tonnage of the world, either in number or value, and most of them, in the event of war, would be withdrawn from their ordinary pursuits. In order to match their speed it would be necessary to build vessels with a displacement of at least 11,000 tons, and, while the great draft and dimensions of such vessels would confine their general efficiency within the narrowest limits, they would absorb for their maintenance and management an undue share of the current appropriations and of the existing allowance of seamen. Furthermore, the cost of building and fully equipping one such vessel would be at least \$4,000,000, or nearly as much as that of all the seven ships recommended by the Board."

Nevertheless the Department added:

"If, however, it should appear to Congress desirable to construct one vessel in which all other qualities shall be sacrificed to the attainment of the highest possible speed, and to provide for maintaining it in commission, the Department will gladly submit plans and estimates therefor, and the vessel, when completed, will no doubt add to the capabilities of the Navy."

The Chicago, Boston, and Atlanta are presented for exactly what they are worth; of moderate size and cost, well protected, handy, and heavily armed—useful and important parts of a modern naval force. The rates of speed assigned them are based on very conservative calculations of their probable performance, and they will undoubtedly exceed the estimates; but the first unarmored cruisers of the new American fleet are not intended for comparison in speed with unprotected racing ships of enormous size, or in defensive power with modern ironclads.

ARMAMENT OF NEW CRUISERS.

To provide the armament of the new steel cruisers, contracts have been made for steel forgings for eight 8-inch and twenty 6-inch guns. Of those for the latter, which were ordered at the Midvale Steel Works, at Nicetown, Philadelphia, eight sets have been completed and good

progress has been made with the other twelve. The forgings for the 8-inch guns were ordered in England, part from Messrs. Charles Cammell & Co., of Sheffield, and part from Sir Joseph Whitworth & Co., of Manchester. Great delay has been experienced in obtaining some of these forgings, especially those ordered from Sir Joseph Whitworth & Co., and it is still uncertain when they can be expected. There being no plant in this country capable of producing 8-inch forgings, the Government is compelled to wait upon the convenience of foreign manufacturers.

The ordnance machine-shops at the Washington navy-yard, where the work of finishing part of the guns is being done, are now beginning to receive steel forgings in sufficient number to enable the Department to prosecute the work to advantage. One 6-inch gun for the *Dolphin* has been finished and has had an extended trial and use at the naval ordnance proving-ground at Annapolis, Md. Its performance is very satisfactory.

Contracts have been made for machine-finishing others of the guns with two private firms—the South Boston Iron Works and the West Point Foundry Association.

The former firm has received two sets of 6-inch forgings, and has begun work on them, but it has not yet been possible to furnish any to the West Point Foundry. Owing to the delays and difficulties inseparable from the commencement of a work of such magnitude as the making of steel high-power guns in the United States, the main batteries of the new cruisers, with the exception of a few guns, cannot, under the most favorable circumstances, be completed until some months after the vessels are finished. The secondary batteries and search-light outfits have been ordered and are expected to arrive in time for the vessels.

It should be borne in mind that the manufacture of modern high-power guns, such as are required for the new cruisers, being wholly new in this country, is slow and difficult, and the cost here is necessarily greater than if they were procured abroad.

ARMORED VESSELS.

The armor for the turrets, pilot-houses, and armored stack of the double-turreted monitor *Miantonomoh*, contracted for with Messrs. John Brown & Co. and Messrs. Charles Cammell & Co. of Sheffield, England, through their agents, Messrs. William H. Wallace & Co., of New York, has been delivered at the New York navy-yard, except one port-plate and the pilot-house plates. The former plate had been rejected, and a new one is now making to replace it. The work of preparing the decks and internal arrangements of the vessel, to accommodate the new roller-base turrets, is well in hand at the New York yard, and the turrets are in course of erection in the iron-plating shop of that yard.

The engines and machinery of the monitors *Amphitrite* and *Terror*, now under construction by the Harlan & Hollingsworth Company, of Wilmington, Delaware, and the William Cramp & Sons' Ship and Engine Building Company, of Philadelphia, respectively, under contracts made in pursuance of the act of March 3, 1883, are about one-half completed. The engines and machinery of the monitor *Puritan*, contracted for under the same act with Mr. John Roach, of New York City, are completed, and ready for trial. No work has been done on the hulls of these vessels, except such as was absolutely necessary to admit and fit the machinery, there being no appropriation for the purpose.

Under the act of Congress "making temporary provision for the naval service," approved July 7, 1884, the unexpended balance of the appropriation of \$1,000,000 for engines and machinery for the double-turreted monitors was covered into the Treasury, except such part as might be required under existing contracts for the engines and machinery of the *Amphitrite*, *Terror*, and *Puritan*.

The Department was therefore unable to carry out the intention, expressed in its last annual report, of making a contract for the completion of the engines and machinery of the *Monadnock*, and her hull now lies at the navy-yard at Mare Island in the same condition as at the date of that report.

The Department renews its previous recommendations that early action be taken by Congress looking to the completion of the monitors. The amounts required are submitted in the formal estimates, as follows:

For completing the four monitors.....	\$3, 159, 654 62
For ordnance for the same and for the <i>Miantonomoh</i> ...	1, 073, 000 00
<hr/>	
Total.....	4, 232, 654 62

Included in the first amount there is estimated for the side, turret, and other armor, as follows:

<i>Puritan</i> , 1,108 tons, at 21.9 cents per pound.....	\$543, 540
<i>Amphitrite</i> , 617.6 tons, at 21.3 cents per pound	294, 411
<i>Terror</i> , 617.6 tons, at 21.3 cents per pound	294, 411
<i>Monadnock</i> , 617.6 tons, at 21.3 cents per ton.....	294, 411
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Total, 2,960.8 tons, at 21.5, costing	1, 426, 773
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If the armor is to be procured within a reasonable period, it must be obtained abroad, like that of the *Miantonomoh*, since no domestic manufacturers are now prepared to make it, and the amount required for this particular object would not justify them in making the necessary outlay for a plant, even if the Government could wait. If, however, additional armored vessels are to be built, it is desirable that active measures should be taken by the Government to encourage the manu-

facture of armor in this country, in connection with the production of steel ingots for guns.

It has never been claimed for the monitors that they would be a match for the enormous ironclad battle-ships of Europe, costing \$4,000,000 each, but they will none the less prove useful and efficient vessels for coast and harbor defense. They have repeatedly been made the subject of examination by naval boards, which have approved their structure and advocated their completion. The highest professional opinion has pronounced in favor of finishing them, and has declared that the total cost, about \$1,600,000 for each monitor, will be in no way exorbitant when compared with the results obtained. Common prudence demands that immediate steps should be taken to remedy the defenseless condition of our coasts and harbors, and the most rapid and economical measure which can be adopted at the present time is to push the partly constructed monitors to completion.

ADDITIONAL NEW VESSELS PROPOSED.

The Department, on the 21st of April last, requested the Advisory Board to report concerning the general features and essential requisites of the following vessels, namely, one cruiser of 4,500 tons displacement, one cruiser of 3,000 tons, one dispatch-vessel of 1,500 tons, two heavily armed gunboats of 1,500 tons each, one light gun-boat of 750 tons, one steel ram, one cruising torpedo-boat, two harbor torpedo-boats, and one armored vessel not exceeding 8,500 tons displacement. Of these, all but the last had been made the subject of recommendations in the Department's annual report of December 1, 1883, in general pursuance of recommendations previously made by the two Advisory Boards. It was deemed desirable, in addition, to obtain the opinion of the Board in reference to an armored vessel, in view of the possibility that its construction might be authorized.

A full statement of the plan of the Board will be found in its report, dated November 7, 1884. It recommends for the 3,000-ton cruiser, a single-decked twin-screw vessel with high freeboard, inclined steel deck, and water-tight subdivisions, carrying a battery of four 6-inch and seven 5-inch breech-loading rifled guns and ten Hotchkiss cannon. The design provides for a barque rig, giving two-thirds of full sail-power. The machinery consists of two complete and independent sets of engines and boilers, in water-tight compartments, with an indicated horse-power of 3,500, and calculated to develop a speed of not less than fourteen knots in smooth water, and a maintained sea-speed of thirteen knots.

The two heavily-armed gunboats should be similarly constructed, but with the rig of a hermaphrodite brig, and with horizontal engines of 1,600 indicated horse-power; one carrying a battery of two 8-inch guns mounted on pivots at the ends of a central superstructure, and two

5-inch guns in sponsons; and the other a 10-inch and a 6-inch gun, in place of the two 8-inch guns.

The light cruising gunboat of 800 tons displacement should carry a battery consisting of six low-power 5-inch breech-loading rifled guns. It should have a light hull of mild steel, unsheathed, and a barkentine rig, which, with a single screw, would make the vessel manageable and useful under sail, with a maintained sea-speed of ten knots an hour under ordinary circumstances.

The armed dispatch-boat should be an unprotected vessel of high speed, of the size, motive power, and general description of the Dolphin, but carrying a battery of seventeen Hotchkiss cannon. It is believed by the Board that this armament of high-power guns, with rapid fire, will be more advantageous than a single great gun of relatively slow and inaccurate fire, in view of the speed of modern merchant steamers, with which alone such a vessel would be expected to contend.

For the armored ram the design proposed by the board is that of a handy, short, twin-screw vessel of 3,000 tons displacement and seventeen knots speed, unarmed, with a central citadel to protect the machinery and an under-water protective deck to strengthen the ram, render secure the buoyancy, and cover the steering-gear.

In reference to a cruiser of 4,500 tons the Board, after mature consideration and in the light of recent developments in ship-building, is of the opinion that the essential fighting qualities of such a ship can be obtained at less original and continuing cost in a smaller vessel, and that the only material advantage in greater size is the provision of accommodation for a flag officer and his staff, an advantage not sufficiently urgent at the present time to call for the outlay. In place of a 4,500 ton vessel, therefore, the Board prefers a fast twin-screw cruiser of the type of the Boston and Atlanta, of about 3,600 tons displacement, protected throughout by a steel deck, carrying armor-piercing guns, and with a speed of at least sixteen knots an hour in smooth water, which would exceed considerably that of most ironclads. By the adoption of twin-screws, two independent sets of machinery, and the necessary arrangements for a forced draft the Board considers that the use of sails as a means of propulsion will be rendered unnecessary. If it should be deemed wise to construct a cruiser of larger dimensions, the Board recommends that the Chicago should be duplicated, with certain improvements in minor details.

In regard to torpedo-boats, the Board reports that it found itself called upon at the outset to decide upon the form of torpedo intended to be used, upon which the design of the boats would necessarily depend. It also found that although there are American inventions of considerable promise, the Whitehead torpedo is the only one in existence which has passed through all the experimental stages and is in the market for sale as a completed weapon of war; and, further, that all the torpedo-boats of European nations for naval attack and for coast and harbor

defense are designed for the use of this torpedo alone. The Board therefore recommends, first, that \$100,000 be appropriated for the purchase of the right to use the Whitehead torpedo and of a number of completed torpedoes; and, secondly, that \$150,000 be appropriated to build by contract one first-class torpedo-boat 130 feet long, one first-class torpedo-boat 110 feet long, and one second-class torpedo-boat 70 feet long, all fitted to carry the Whitehead torpedo; and that the contracts should stipulate a penalty if results equal to those in foreign boats are not obtained, and a premium if they are exceeded.

In regard to an armored vessel, the Board finds that under existing conditions the depth of our harbors and the size of our dry-docks would present serious obstacles to the usefulness of a first-class sea-going battle-ship, that is, a ship armed with the heaviest guns, protected by the heaviest armor, and provided with the maximum engine-power attainable in a vessel of not unwieldy size. Investigation proves that the necessity of being able to enter the principal ports on this coast would limit the maximum draft of such a vessel to twenty-three feet, while the size of the docks at Boston and Norfolk would fix the extreme breadth at fifty-eight feet. The dry dock now building at Mare Island is the only one in the United States that would admit a first-class ironclad. These conditions would establish a maximum displacement of 7,000 tons, and the preliminary design of an ironclad of such dimensions will shortly be completed.

The Department, in adopting substantially the recommendations of the Board, would call special attention to the necessity of developing the means of attack and defense by torpedo-boats, and the importance of entering in this country upon the construction of what has now become one of the most complicated naval weapons, and yet one of the most inexpensive means of defense—for fifty torpedo-boats may be built for the cost of one ironclad.

Great attention has been paid to the subject in recent years by European States and the construction of torpedo-boats has long since passed the stage at which improvised or hurriedly-built substitutes will take the place of a boat of the most approved modern design. An organized system of coast protection by torpedo-boats is now considered indispensable. They are intended to form a middle line of defense or coast patrol between the forts and fixed mines inshore and the monitors and coast-defense vessels outside. Germany has taken a decided step in advance of other powers in this respect, and will in time, at a final expense of about four million dollars, be in possession of one hundred and fifty of these craft, or one for every ten miles of coast, a distance which can be traversed by the boat in half an hour in any weather in which an ironclad would venture to approach. The United States have hitherto made no progress in this direction, and in view of the overwhelming importance of establishing the middle line of defense, and the opportunity offered by our own coast for utilizing these instruments

of warfare, it is strongly recommended that immediate action be taken to carry out the policy indicated by the Board.

The recommendations made above are in all material points the same as those offered in the Department's report of December 1, 1883, and bear out the views then advanced as to the gradual replacement of our decaying fleet by modern constructions. The first Advisory Board fixed the number of vessels required in commission at forty-three, and the reserve at twenty-seven, making a total of seventy. To provide such a fleet the Department recommends the construction of seven modern cruisers annually, for the period of ten years, at a cost of four millions a year, a large part of which would be saved by abandoning attempts to rebuild the present wooden fleet. Such a plan, while conforming to the conservative demands of our national policy, and affording ample time for adopting every new development in the art of construction, would give the country, at a moderate cost, a Navy adequate to train its officers and to maintain its safety and honor.

THE PRESENT FLEET.

The available cruising war-vessels of the Navy are the following: One first-rate, the *Tennessee*, of 4,840 tons displacement;

Eleven second-rates, the *Trenton*, *Lancaster*, *Brooklyn*, *Pensacola*, *Richmond*, *Hartford*, *Omaha*, *Lackawanna*, *Vandalia*, *Shenandoah*, and *Powhatan*, varying in displacement from 2,100 to 3,980 tons;

And nineteen third-rates, the *Juniata*, *Ossipee*, *Quinnebang*, *Swatara*, *Galena*, *Marion*, *Mohican*, *Iroquois*, *Wachusett*, *Kearsarge*, *Adams*, *Alliance*, *Essex*, *Enterprise*, *Nipsic*, *Yantic*, *Monocacy*, *Alert*, and *Ranger*, varying in displacement from 900 to 1,900 tons—making in all thirty-one vessels, of which only the last three, of less than 1,400 tons displacement, have iron hulls, all the others being built of wood.

Of the above list, it is reported that the following will be condemned when surveyed, as they cannot be repaired under the law: *Tennessee*, *Lackawanna*, *Powhatan*, and *Wachusett*.

The following, it is estimated, will pass out of the service within six years: *Brooklyn*, *Hartford*, *Iroquois*, *Kearsarge*, *Pensacola*, and *Richmond*.

It is thought that the remaining eighteen wooden vessels on the list may, with care, be made to last between ten and fifteen years, making it probable that at the end of that time the only cruising vessels of the present list remaining will be the three small iron vessels, *Monocacy*, *Alert*, and *Ranger*.

Of the available vessels named in the annual report of the Department, dated November 29, 1882, the *Alaska*, *Ticonderoga*, *Tuscarora*, and *Wyoming* have been stricken off the Navy Register under the acts of August 5, 1882, and March 3, 1883; the *Monongahela* has been fitted as a storeship; and the *Ashuelot* has been lost at sea.

Of the vessels on the Navy list at the same date, but not then deemed available, the following have been stricken off under the same acts: Antietam, Benicia, Burlington (formerly a ferry-boat), Canandaigua, Colorado, Colossus (never launched), Congress, Connecticut (never launched), Cyane, Dictator, Florida, Frolic, Guard, Iowa (never in commission), Java (never launched), Kansas, Massachusetts (never launched), Monadnock (old), Narragansett, New Orleans (never launched), Niagara, Nyack, Ohio, Oregon (never launched), Pawnee, Pennsylvania (never launched), Plymouth, Relief, Roanoke, Sabine, Saco, Santee, Savannah, Shawmut, Supply, Susquehanna, Virginia (never launched), and Worcester; and eight tugs: Blue Light, Emerald, Glance, Jean Sands, Phlox, Rose, Seaweed, and Sorrel.

REPAIRS OF WOODEN SHIPS.

It was recommended in the annual report of the Department for 1882 that the wooden vessels should receive only such moderate repairs as would enable them to serve the purpose of the Government until a new modern navy could be constructed, and with this view a continuance was advised of the proviso adopted at the first session of the Forty-seventh Congress, in the naval appropriation act of August 5, 1882, limiting the repairs of wooden vessels to a fixed percentage of their cost, but it was recommended that the limitation be fixed at 20 instead of 30 per cent. This recommendation was adopted in the naval appropriation act of March 3, 1883, passed at the second session of the same Congress.

In the report of December 1, 1883, the Department recommended the continuance of the limitation in the following words: "The proviso of the act of March 3, 1883, limiting the repair of wooden ships to 20 per cent of their cost, should be continued in force in order that no money may be expended in rebuilding worn-out structures of an obsolete type." Notwithstanding this recommendation, in the naval appropriation bill reported from the Committee on Appropriations to the House of Representatives at the first session of the Forty-eighth Congress, which passed the House March 6, 1884, the 30 per cent limit was restored. The Department believes that this is a step backward. The real explanation of the alleged disproportion between the amount of expenditure and the results accomplished in the naval administration of this country is to be found in the adherence to a policy of attempting at great cost to rehabilitate worn-out structures under the name of repairs. For more than two years the Department has combated this wasteful policy, and has shown repeatedly by actual figures to what extravagance it has led. It is only necessary to cite a few instances mentioned in the reply of the Department, January 11, 1884, to a resolution of the Senate (Forty-eighth Congress, first session, Executive Document No. 48).

The Shenandoah, built in 1862, at a cost of \$463,866.75, has been charged with repairs since her completion amounting to \$906,481.54.

The Ossipee, built in 1861, cost \$407,064.20, and her repairs since that time have amounted to \$1,197,391.39. The Kearsarge, built in the same year for \$286,918, has since been repaired at a cost of \$1,123,415.75, enough to have nearly built four new vessels of the same description. The Pinta, which cost in 1865 \$135,915.91, has cost for repairs \$224,826.52.

It now remains to be seen whether this policy of unlimited repairs which the Department has sought earnestly to check is to be resumed in the future. Its injurious effects are far-reaching and various. It places the whole subject of construction and repair outside of definable limits, and prevents the exercise of the necessary checks. Returns of expenditure, under the vague heads of "labor" and "materials," afford no definite clew to the real application of the moneys expended. "Repair" and "reconstruction," in the absence of fixed limits, are terms easily interchangeable, and the published statements of expenditure under the first name during many years show that it is only too apt to mean the second. The bureaus having the supervision of work at the navy-yards are unrestricted in their expenditures for repairs of ships and engines, except by the gross amount of the annual appropriations. The only pretext upon which the existence of our overgrown establishment could be justified was this demand for annual reconstruction under the fiction of necessary repairs, and hence it is that instead of maintaining such yards and such only as were necessary for the advantage and benefit of our ships, the ships have been made to drag out a protracted existence for the benefit of the yards.

NAVY-YARDS.

The most perplexing question in the reconstruction of the Navy will be the disposition and management of the navy-yards, each having numerous workshops, and each workshop being engaged in producing or refitting separate portions of every one of the naval vessels constructed or repaired, while there are many heads of the work and no one technical superintendent responsible for and supervising the whole.

In pursuance of the policy declared by Congress in the reduction of appropriations for yard maintenance and in providing small sums for the care of closed yards, all work upon ships has been discontinued in several of the navy-yards, as stated in the last annual report, and these are used only as naval stations.

Under the conditions of modern ship-building, not more than two naval workshops should be maintained on the Atlantic coast and one on the Pacific; and it may even be doubted whether more than one is needed on the Atlantic coast. The New London yard should be offered back to the State of Connecticut, and the League Island yard to the city of Philadelphia. The Boston yard, being in the heart of a great city, should be sold or reduced in size. The Pensacola and Portsmouth yards would sell for only a small price, and may well be kept for naval stations and arsenals.

Assuming that the workshops are to be kept open at the New York, Norfolk, and Mare Island yards, certain improvements in administration are indispensable, or any modern ship which may be built in them will be a failure, and any ship built elsewhere which may be sent to them for repairs will be ruined; while both in building and repairing excessive and extravagant expenditures will be made.

First among the necessary improvements is that recommended in the report of last year:

“These establishments must first be thoroughly reorganized in such a way as to exclude all political considerations from their management; otherwise bad and expensive work will be the result. We cannot afford to destroy the speed of our naval engines in order to make votes for a political party. Whatever other governmental agency may be conducted with partisanship, a great naval workshop, dealing with the hull of a modern steel steamship, its fittings and equipment, and with the complexities of its machinery, cannot be successfully so managed.”

“Until the navy-yard workshops are managed on business principles and without regard to politics the construction and repair of the new American navy should be committed to those builders who employ or discharge their foremen and all their artisans according to their skill as mechanics and without caring for their political opinions or votes.”

These views are in accordance with section 1546 of the Revised Statutes, which declares as follows concerning the employees at the navy yards:

“Nor shall any workingman be removed or discharged for political opinion.”

The foremen should be selected without regard to their ability or influence as ward politicians, and the best and most capable workmen should be employed without regard to their votes or their activity in politics. Unless some plan can be devised, and in good faith carried out, which secures such non-partisan management of the naval workshops, all of them should be closed and all building and repairing of Government vessels should be let to the lowest bidder. The fast steel warship of the future cannot be produced or kept in repair under such a system as has too often prevailed in our navy-yards.

Secondly, a plan must be adopted to fix with certainty the direct responsibility of some one person for the performance of the work skillfully, successfully, and economically. The present system has two defects:

The navy-yard is a great naval station with an admiral or commodore in command, surrounded by all the form and ceremony incident to a military post. The mechanical workshops and the officer in charge of them are under his control, and he is supposed to be responsible for what is done. However complete may be the military supervision, the technical oversight of the commander-in-chief is usually merely nominal. Too many persons are in form or in fact connected with the work; too much routine and formality exist; promptness of decision and action

does not prevail; and responsibility for neglect, delays, or failures cannot be definitely fixed.

The next defect is of the same character as that which exists in the organization of the Navy Department itself, namely, the subdivision of the direction of work upon vessels among the naval constructor, the chief engineer, and the equipment officer; all three engaged upon one vessel, all having co-ordinate powers, and none of them under any control on the spot except that of the line-officer of high rank who commands the naval station. Under these circumstances, unity of action and effective direction and superintendence in the building or repairing of a ship are impossible.

The remedy for these defects must be found in placing one technical head—a competent ship-builder—over all the persons engaged in building or repairing the ship; over the work on the hull, the machinery, and the equipment. The difficulty of finding within or without the naval corps persons fit for the service required, and of placing them in their appropriate positions in the naval establishment, is recognized. But they must be found if the Government workshops are to be worthy of the name. When found and installed they must be made in all technical matters practically independent of the commanding officer of the naval station. There can be no objection to the military command of the station exercised by the commandant; but it should be confined to military objects, and the superintendent of the workshop should by the Navy Department be held directly and solely responsible for the work of construction, repair, and equipment under his charge.

There is something radically wrong in a system which unites in a single organism a military post with its routine, its forms and ceremonies, its modes of official correspondence, its quarters for officers, and its drill grounds and barracks on the one hand, and a mechanical workshop devoted to operations that have not the remotest connection with the discipline of a military service. The organization, the methods of control required, the objects to be accomplished are totally dissimilar and incompatible. It would be wrong to undervalue the importance of military forms and usages and the elaborate but perhaps necessary machinery which is a characteristic feature of military administration; but it is clear that this is not the kind of machinery that belongs to a workshop. At the present time navy-yard administration is overloaded with traditions and customs, the work is obstructed by a cumbersome organization, technical responsibility is lost in the elaborately graded multitude of semi-technical and semi-military officials; instead of smoothness is to be found friction, instead of promptness delay and procrastination, instead of thrift extravagance, instead of unity of action a mass of discordant interests. And as if one such establishment were not enough of a blunder, the national policy, under the clamor of localities seeking patronage, has multiplied these military

shops and dotted them all over the country, in order that the benefits of wasteful governmental expenditure may be shared by many States.

As a partial remedy for the evils above described it is recommended that there shall be three officers, to be known as Supervising Naval Constructors, to be appointed by the President by and with the advice and consent of the Senate, either from civil life or from the officers of the Navy, to hold their offices until successors are appointed, and if appointed from the Navy to have the relative rank of captain during their period of office. The Supervising Naval Constructors so appointed should have direct charge of all work now falling under the heads of construction, steam-engineering, and equipment, at the three naval workshops, under the supervision of the Chief of the Bureau of Naval Construction, by whom they could and should be held to a rigid accountability for all work carried on at their establishments; while the Chief of the Bureau would be subject to an equally rigid accountability for all their doings.

This reform is believed to be practicable and necessary. If the force of accumulated traditions and the excessive conservatism of the service prevent its adoption, it would be better to discontinue our yards for all working purposes, and not only build but repair our vessels and engines by contract.

SALES OF CONDEMNED SHIPS AND STORES.

In the last annual report the proceeds of the sales of old vessels under the fifth section of the deficiency act of March 3, 1883, were stated at \$384,753, and deducting therefrom \$29,000, being the price offered for the Niagara (the sale of which was set aside), and adding \$24,312 received from the sale May 3, 1884 of the Pawnee, Supply, and Benicia, the total receipts have been \$380,065; which were, immediately after the acceptance of the various bids, deposited in the Treasury of the United States, subject only to the official drafts of the Department for lawful purposes; and on the 18th of April, 1884, at the request of the Department, \$200,000 of the deposits were formally covered in as miscellaneous receipts, leaving \$180,065 subject to draft.

The act provided, as to any condemned vessels which could not properly be sold and which it might become necessary to remove, that "the cost of such removal shall be paid out of the net proceeds derived from the sale of other vessels hereby authorized to be sold."

For reasons stated in a reply of the Department dated June 14, 1884, to a resolution of the House of Representatives (Forty-eighth Congress, first session, Executive Document No. 170), there have been wholly or partly broken up the Connecticut, Oregon, and Pennsylvania, at Boston; the Colossus and Java, at New York; the Massachusetts and Plymouth, at Portsmouth, and the Canandaigua, at Norfolk; the estimated cost of all the work being about \$135,396.98, and the estimated value of the metal and other materials to be realized being \$100,732.04, or a

probable net loss of \$34,664.94. A detailed statement of the account up to November 24, 1884, is transmitted with this report.

The sales of condemned stores and supplies under the second section of the act of August 5, 1882, stated in the report of last year as amounting to about \$138,000, appear, on complete returns since received, to have realized, after paying the expenses of sale, the net sum of \$133,406.11, of which \$127,617.47 was covered into the Treasury as "miscellaneous receipts" under section 3618 of the Revised Statutes, and \$5,788.64 was placed to the credit of "ordnance material and small arms," under the act of June 20, 1878. Additional sales have been made amounting to \$26,005.68, of which \$10,047.87 were received by the paymaster at Rio de Janeiro from the stores disposed of upon giving up the naval storehouse there in September last. Two sunken hulks have been sold at Mare Island recently for about \$2,400, and the proceeds will be covered in as miscellaneous receipts.

WAR VESSELS IN COMMISSION.

The North Atlantic Station remained under the command of Rear-Admiral George H. Cooper until June 26, 1884, when he was retired from active service at Portsmouth, N. H., the command being transferred to Acting Rear-Admiral S. B. Luce. On the 20th of September Acting Rear-Admiral Luce was detached at Newport, and Acting Rear-Admiral James E. Jouett succeeded him. The *Vandalia* was detached and put out of commission October 14, 1884, and the squadron now consists of the *Tennessee*, flag-ship, *Galena*, *Swatara*, *Alliance*, and *Yantic*.

The *Nipsic*, Commander H. B. Seely commanding, is at present the only vessel on the South Atlantic Station, the flag-ship *Brooklyn*, flying the flag of Rear-Admiral T. S. Phelps, having returned to New York early in October, 1884.

Rear-Admiral A. K. Hughes commanded the force on the Pacific Station until the 8th of April, 1884, when he was retired from active service. Rear-Admiral John H. Upshur succeeded to the command at San Francisco April 8, 1884. The squadron has been decreased by the detachment of the *Pensacola*, former flag-ship, and the *Adams*, and increased by the arrival of the *Shenandoah* and *Pinta*; the other vessels being the *Hartford*, flag-ship, *Lackawanna*, *Wachusett*, and *Iroquois*.

The European Station is now commanded by Rear-Admiral Earl English, who relieved Rear-Admiral C. H. Baldwin, at Southampton, England, on the 20th of September, 1884. The vessels are the *Lancaster*, flag-ship, *Kearsarge*, and *Quinnebaug*.

Acting Rear-Admiral John Lee Davis is now in command of the Asiatic Station, having joined December 19, 1883. During the past year the *Richmond* and *Essex* have been ordered home, and the squadron has been increased by the arrival of the *Trenton*, *Ossipee*, and *Alert*, which, with the *Enterprise*, *Juniata*, *Monocacy*, and *Palos*, constitute the present force.

The Powhatan has been engaged in detached service, the Michigan on the lakes, and the Ranger in surveys on the Mexican and Central American coasts of the Pacific.

THE JEANNETTE EXPEDITION.

Lieutenants Giles B. Harber and William H. Schuetze, who had been employed in the continued search for the missing boat's-crew of the Jeannette, and subsequently in executing the orders of the Department issued in pursuance of the act of August 7, 1882, relative to the removal of the remains of Lieutenant-Commander De Long and his companions, remained in Siberia during the summer of 1883, awaiting the return of cold weather, during which alone the transportation could be effected. The bodies in their charge were those of Lieutenant-Commander George W. De Long, Surgeon James M. Ambler, Jerome J. Collins, Walter Lee, Adolph Dressler, Nelse Iverson, Carl A. Görtz, George W. Boyd, Heinrich H. Kaacke, and the cook Ah Sam. They had been removed from the grave in the Lena Delta and placed in temporary sealed cases at Yakutsk.

The sled train with the bodies left Yakutsk November 28, 1883, arriving at Orenburg, the nearest railway point, on January 16, 1884. At the principal cities on the route the train was received with military and civil honors by the local Russian authorities. At Orenburg the remains were taken to the hospital and transferred to the metallic burial cases sent from the United States, after which they were placed in a special car. On January 24, Lieutenants Harber and Schuetze started for Hamburg via Moscow and Berlin, reaching their destination February 2. Similar honors were paid at important points on this journey. At Hamburg the bodies were transferred to the steamer Frisia, of the Hamburg American Packet Company, which sailed for New York February 6, and arrived February 20.

The bodies were landed at Hoboken, N. J., and were conveyed on February 22, in the tug Nina, to the Battery, where they were received with suitable honors. The escort was composed of a detachment of seamen and marines, a battalion of the Regular Army, and two regiments of the National Guard of the State of New York. Funeral services were held at the Church of the Holy Trinity, on Madison avenue, after which seven of the bodies, among them that of Lieutenant-Commander De Long, were buried at Woodlawn Cemetery. The remaining three, being those of Dr. Ambler, Mr. Collins, the meteorologist, and the coal-heaver, Boyd, were delivered to their friends for interment at the places designated by the latter.

THE GREELY RELIEF EXPEDITION.

By Executive order of December 17, 1883, a Board composed of officers of the Army and Navy was constituted to "consider an expedition to be sent for the relief of Lieutenant Greely and his party, com-

prising what is known as the Lady Franklin Bay Expedition, and to recommend to the Secretaries of War and the Navy jointly the steps the Board may consider necessary to be taken for the equipment and transportation of the Relief Expedition, and to suggest such plan for its control and conduct and for the organization of its personnel as may seem to them best adapted to accomplish its purpose." The Board met pursuant to the above order on December 20, and after a full examination of the subject, with the assistance of testimony from all persons having experience in Arctic expeditions whose advice could be obtained, presented a report dated January 22, 1884, which was immediately transmitted to Congress. On the same day a joint resolution making an appropriation for the relief of Lieutenant Greely and his party was introduced in the House of Representatives, which resolution was finally passed and approved February 13, 1884.

It was decided at the outset, in accordance with the opinion of the Secretary of War and the Secretary of the Navy, as expressed in a letter of January 17 to the President, that the control of the expedition should be committed to the Navy Department, and on February 18 Commander Winfield Scott Schley was designated for the command.

In view of the probable passage of the resolution authorizing the expedition and of the extreme urgency of the case preliminary steps were taken to secure suitable vessels. After careful examination of the vessels available for the purpose, on February 2 the steam-whaler *Thetis* was purchased at Dundee, Scotland, and on January 28 the sealing steamer *Bear* at St. John's, Newfoundland. The British Government generously presented to the United States for the use of the expedition the steamer *Alert*, which had previously been thoroughly prepared and equipped for service, and had been successfully employed in the Arctic expedition of 1875-1876 under Sir George Nares.

At the instance of the Secretary of War and the Secretary of the Navy, the Secretary of State caused requests to be addressed to the owners of steam-whalers and sealers abroad to direct the captains of their vessels to be on the watch for traces of the Greely party. The minister of the United States at Copenhagen was also directed to request of the Danish Government that instructions should be issued to the authorities in Greenland to afford all possible facilities to the expedition.

The *Bear* arrived at New York February 15. The *Thetis* arrived at the same place, from Dundee, Scotland, March 23, under command of Lieut. L. L. Reamey. The *Alert* arrived April 22, from Spithead, England, under command of Lieutenant-Commander C. F. Goodrich. Lieut. William H. Emory was assigned to the command of the *Bear*, and Commander George W. Coffin to that of the *Alert*, which was to be employed as a reserve vessel. The *Thetis* was placed under the command of Commander Schley, commanding the expedition.

After careful inspection of the vessels, it was decided to make certain necessary alterations. These alterations, and the supply of the necessary

equipment, were hastened forward with all possible care and dispatch, the chiefs of bureaus giving their personal attention to all the details.

The use of anthracite coal being inexpedient, the coal-transport Ybarra was chartered and brought over from Cardiff 2,000 tons of Welsh coal of superior quality. To supply the expedition in the Arctic regions, a contract was entered into with the agents of the English steamer Loch Garry to transport 500 tons of coal from Cardiff to Littleton Island.

The officers and crew of the vessels were carefully selected after every precaution had been taken to ensure the necessary physical and other qualifications for their arduous duty. In accordance with the plan early decided on, the Bear, whose preparations were most advanced, sailed from New York April 24. The Thetis followed on May 1, and the Alert on May 10. All the vessels were to stop at St. John's for coal. The Bear reached Saint John's May 1, sailed on May 3, and arrived at Godhavn May 13. After several unsuccessful efforts to penetrate the ice barrier, she succeeded in getting through to Upernavik, where she arrived May 28. On the following day she was joined by the Thetis. The collier Loch Garry had previously joined the Thetis at Saint John's, and Ensign Washington I. Chambers was detailed to represent the Government on board and protect its interests, in view of its responsibility for the ship from the time of her sailing from St. John's until her return to that port. The Loch Garry remained in company with the Thetis, and both ships arrived at Godhavn May 22. After leaving this point, on May 24, the same difficulties were encountered in the navigation through the ice barrier that had delayed the progress of the Bear. It was therefore determined to send the Loch Garry back to Godhavn until the weather became more favorable. Two days later the Loch Garry was enabled to come up with the Thetis, and after a passage of great danger and difficulty the two vessels arrived at Upernavik. Here it was ascertained that the condition of the packed and unbroken ice to the northward would render the further progress of the coaling steamer impossible at this date, and she was accordingly directed to remain until the arrival of the Alert.

The Thetis and Bear sailed from Upernavik May 29, Governor Elberg, of Upernavik, accompanying the ships as far as Kingitok, to render assistance. Here the fleet was detained until June 1. From June 7 the ships were delayed for five days at the Duck Islands, watching the vast fields of ice in Melville Bay, in which no lead was visible. On June 14 an advance of 30 miles was made. On the following day another advance was made through dangerous and tortuous leads, and among heavy icebergs, to a position 58 miles southeast of Cape York. At that point land-ice was found to extend in one unbroken and impenetrable mass a distance of 60 miles off shore, while there were unfailing indications of coming southeast gales. During the next two days, until *the gale abated*, the ships were in imminent peril.

On the 18th the ships arrived at Cape York. Here they were separated, and the search was continued along the coast to the northward. After three days of difficult navigation, following every lead and crack in the ice, by the aid of constant ramming, and by using torpedoes when practicable, the *Thetis*, on June 21, arrived at Littleton Island. A day was spent in examining the island with its cairns and caches, but no traces of the missing party were found. On the following day the *Bear* arrived, after an equally difficult and dangerous passage, and the two vessels pushed over to Payer Harbor, arriving at 7.30 in the evening. Search parties were sent ashore, and one of them found, in the cache on Brevoort Island, the first intimation of the situation of Greely and his companions. Losing no time, the vessels passed around the point of Cape Sabine, and reached the wreck camp an hour after the discovery of the record.

At this point were found Lieutenant Greely and the other survivors of the *Lady Franklin Bay Expedition*, numbering in all seven persons. Their enfeebled condition showed that they had not many hours to live. They were tenderly cared for, and as soon as their strength was sufficiently restored were brought off to the vessels. The bodies of the dead were then removed, as well as all the records and other property belonging to the party.

The object of the Relief Expedition being accomplished, the ships, on the 23d of June, sailed from Payer Harbor, retracing their course through Melville Bay. On the 1st of July, near Sugar Loaf Mountain, the *Alert* and *Loch Garry* were discovered beset in the ice-pack. The former vessel had arrived at Upernavik June 13, but had been obliged to remain there until the condition of the ice was favorable to the safe passage of the collier. Between the 19th of June, when they arrived at Upernavik, and the 1st of July, the two vessels had been struggling to cross Melville Bay.

The four vessels now continued their progress homeward, remaining in company as far as the Brown Islands. The *Alert* was sent on with the *Loch Garry*, and the *Thetis* and *Bear*, after stopping at Upernavik, joined the others on July 5 at Godhavn, where was buried the Eskimo Christiansen, one of those who had perished at Cape Sabine.

On July 9 the four ships left Godhavn, and the *Thetis*, *Bear*, and *Loch Garry* arrived at St. John's July 17. The *Alert* arrived on the following day. The coaling steamer was on July 21 sent to New York, and on July 26 the ships of the Relief Expedition sailed from St. John's, arriving at Portsmouth August 1. They were received on their arrival by the Secretary of the Navy and by the North Atlantic squadron, commanded by Acting Rear-Admiral Stephen B. Luce. The survivors of the expedition were landed at Portsmouth, and at the same place the body of Winfield S. Jewell, who had been a resident of New Hampshire, was delivered to his friends.

On the 4th of August a civic reception was given to Greely and his

companions, and the officers and men of the relief squadron by the city of Portsmouth. On the following day the relief ships sailed for New York, arriving August 8. The remaining bodies were landed at Governor's Island, and delivered to the authorities of the War Department.

Under the act approved April 17, 1884, a proclamation was issued by the Secretary of the Navy on that day, and duly circulated, offering \$25,000 "to be equitably paid or distributed to such ship or ships, person or persons, not in the military or naval service of the United States, as shall discover and rescue, or satisfactorily ascertain the fate" of the Greely Expedition. No claim for this reward has been presented to the Department, none of the whalers which had attempted the rescue having reached a point within one hundred miles of the missing party.

The joint resolution of February 13, 1884, directed the sale of the vessels which might be purchased for the Greely Relief Expedition. The sale has not yet been made, and it is recommended that the *Thetis* and *Bear* be retained for surveying vessels, or to cruise in the waters of Alaska, or for use in the training service.

The expenditures and outlays on account of the expedition appear from the books of the Fourth Auditor to have been \$762,996.18, a full and detailed account of which will shortly be ready for submission to Congress, as required by the joint resolution authorizing the rescue. The *Bear* cost \$100,000, the *Thetis* \$140,000, and all three of the ships were thoroughly repaired and fitted for cruising and wintering in the Arctic regions, at an expense of about \$200,000. The coal and the hire of the *Loch Garry* cost over \$50,000; provisions, about \$100,000; clothing, over \$60,000; and the pay of the men, who were given special wages and a bonus on their return, amounted to over \$50,000. The large expenditure for supplies was required because, although the *Thetis* sailed from New York on May 1 and entered Portsmouth on the return on August 1, the expedition was fully fitted for a two years' absence, and in case of necessity could have remained three years without suffering. Much of the outfit is of full value for the naval service. No suggested provision for the safety or comfort of the explorers or for the success of the search was omitted because of its cost.

In preparing the Greely Relief Expedition of 1884, there was neither omission, neglect, nor mishap. In conducting it to a successful issue against the warring elements there were manifested unremitting patience and persistency, indomitable will, honorable ambition, and a high sense of duty to their perishing countrymen and comrades of the Army on the part of all its officers and men. Their achievement has reflected high credit and honor upon the American Navy, and their names stand recorded in the General Order No. 321 of August 5, 1884, in which "the Department extends its cordial and earnest congratulations to Commander Schley, commanding the expedition, and to the officers and men of his command, upon the distinguished success of their efforts,

and takes this occasion of publicly commending the courage, zeal, and judgment with which they executed their difficult and dangerous duty."

ORGANIZATION OF THE DEPARTMENT.

It is necessary to call attention once more to the impossibility of properly conducting the business of the Navy Department without further civilian assistance than is now at the command of the Secretary. There should be, in addition to the head of the Department, at least two responsible departmental officers, whose training is that of civil life, and who shall represent the civil authority. These should be an Assistant Secretary and a Solicitor. The technical subjects, which in great number and variety fall under the consideration of the Department, are distributed among eight bureaus and additional offices, whose chiefs must, by law, be officers of the Navy. The task of conducting, in conformity with the laws of Congress and the policy and will of the President, these many military sub-organizations as a harmonious and efficient whole is too great for any single person from civil life, unless aided in the details of business by responsible civil subordinates. The necessary assistance cannot be given by the chief clerk, whose duties at the head of the clerical force are sufficient to occupy fully his attention. A laborious experience of two years and a half forces irresistibly the conclusion that an Assistant Secretary is indispensable for the proper transaction of the business of the Department. If such aid is not provided, Congress should give authority for the appointment of the chiefs of the bureaus from civilians.

THE BUREAUS AND ADVISORY BOARD.

Occasion is gladly taken to state that whatever differences of opinion have arisen concerning the details of the work of the Department, complete personal friendship and harmonious relations have existed between the Secretary, all the chiefs of the bureaus, and the Naval Advisory Board. This condition has contributed largely to whatever success may have been achieved.

It is again recommended that the two Bureaus of Construction and Repair and Steam-Engineering be united as a single Bureau of Naval Construction, to have for its chief the most competent naval architect who can be found, whether among the present officers of the Navy or in civil life; and it is further recommended that the equipment work be transferred from the present bureau to such enlarged Bureau of Construction.

This consolidation would give unity of responsibility and power in the construction of ships and would obviate the necessity of a Naval Advisory Board, which is now by law placed between the Secretary and the Bureaus.

Elsewhere in this report the necessity is argued of one technical superintending head of each Government workshop at the navy-yards.

Even more indispensable will be found one technical head of the construction offices of the Department which are to design the ships and to supervise their construction, whether in private or public shops. The Secretary, the Chief Constructor, the Engineer-in-Chief, the Chiefs of the Ordnance and Equipment Bureaus, and the Advisory Board, twelve persons in all, have managed to agree fairly well concerning the designs and the work upon the new cruisers, but this extreme distribution of functions will not answer as a permanent organization.

If one technical head, who shall be the superior of all the constructors, engineers, and other officers engaged in designing ships can be found, he is the proper adjunct of the Secretary. The present naval corps will probably furnish the expert officer; if not, he should be looked for and found in civil life.

BUREAU OF YARDS AND DOCKS.

The annual report of Rear-Admiral Edward T. Nichols, Chief of the Bureau of Yards and Docks, which has been most faithfully and ably conducted during his whole term of office, describes the condition of each navy-yard, and submits estimates, in addition to those for general maintenance and ordinary repairs and preservation, of \$3,799,865.29 for permanent improvements. Of this amount the Department has submitted to Congress, through the Secretary of the Treasury, only \$733,883, believing, as stated in the report of last year, that, before making any considerable appropriations for permanent improvements, Congress should adopt a definite and complete plan, determining what yards shall be used for construction and repair and how they shall be improved.

The navy-yard system has already been discussed and the opinion expressed that if naval vessels are to be built or repaired in the Government workshops, the latter should be thoroughly reorganized, politics excluded therefrom, and a single technical superintendent provided for each; and that not more than two workshops should be maintained on the Atlantic and one on the Pacific coast.

The Department still continues to recommend the sale of fifty-three acres of the New York navy-yard, together with the naval hospital grounds.

BUREAU OF EQUIPMENT AND RECRUITING.

The late Chief of this Bureau, Rear-Admiral Earl English, resigned his office on the 5th day of September, to take command of the European Station, and was succeeded on the next day by Commodore Winfield Scott Schley, whose report narrates the operations of the Bureau during the past year, in purchasing coal and manufacturing cordage, iron cables, galleys, and sails; considers the training-ships and the apprentice training system and their necessities, and makes certain recommendations concerning needed improvements in the condition of the apprentices and enlisted men of the Navy, which should be specially recommended to Congress.

By Executive order dated November 5, 1883, the pay of the petty officers and enlisted men of the Navy was increased, the increase to take effect January 1, 1884, under the authority of section 1569 of the Revised Statutes, which is as follows: "The pay to be allowed to petty officers, excepting mates, and the pay and bounty upon enlistment of seamen, ordinary seamen, firemen, and coal-heavers, in the naval service, shall be fixed by the President."

The changes in the more important ratings are as follows:

	Old rate.	New rate.
Seaman.....	\$21 50	\$24 00
Ordinary seaman.....	17 50	19 00
Landman.....	15 50	16 00
Machinist (or corresponding rating):		
First class.....	50 00	70 00
Second class.....	50 00	60 00
Third class.....	50 00	50 00
Fireman:		
First class.....	31 50	35 00
Second class.....	26 50	30 00
Coal-heaver.....	21 50	22 00

BUREAU OF NAVIGATION.

The report of Commodore John G. Walker, Chief of the Bureau of Navigation, describes the operations of the Bureau and the offices under it, in connection with the repair, inspection, and testing of Navy compasses; the investigation of the magnetism of iron and steel vessels, and in particular of that of the new cruisers; the continuation of the determination of longitudes, under the direction of Lieutenant-Commander Charles H. Davis; navigation supplies; ships' libraries; the Naval Observatory; the Hydrographic Office; and the Nautical Almanac.

The Bureau has now procured the necessary instruments for the compass-testing house, and it is desirable that the appropriation for its erection which was approved by both houses in the naval appropriation bill at the last session, but which failed to become a law, should be made without delay.

During the years subsequent to the war the Bureau depended in part for the necessary navigation supplies for the Navy upon articles accumulated during the war. As these supplies are now exhausted, the reduction of appropriation made in the recent acts has subjected the Bureau to great embarrassment. It is, therefore, recommended that the appropriation be increased to \$130,000, the amount asked for in the annual estimates, as the lowest sum necessary for a proper administration of the Bureau.

NAVAL OBSERVATORY.

The report of the Superintendent of the Naval Observatory, Commodore Samuel R. Franklin, treats in detail of the work performed at the Observatory with the several instruments, the transmission of time-signals, and the reduction of the observations of the transit of Venus.

It is recommended that the appropriation for printing the publications of the Observatory be increased, and that provision be made for the construction of new buildings upon the site selected and purchased for this purpose.

HYDROGRAPHIC OFFICE.

The Hydrographic Office, ably conducted by Commander John R. Bartlett, has continued to do most efficient work in the correction of charts, the production of new charts from surveys by officers of the Navy, and the preparation and publication of nautical information. Over one thousand announcements have been issued, in the "Notices to Mariners," of which 310,000 copies have been distributed gratuitously in all parts of the world. Light-lists of the world, corrected to July 1, were issued July 20. The branch offices, the establishment of which was noticed in the last annual report, have been of incalculable service in furthering the operations of the office, by giving increased facilities for the receipt and dissemination of maritime information. The monthly Pilot Chart of the North Atlantic Ocean, first issued on December 1 of last year, in continuation of the plan proposed and begun by Lieutenant Maury, has been regularly published since that date, and has met with a steadily increasing demand.

The surveys of foreign coasts by vessels of the Navy are still in progress, and the charts which have been published by the Hydrographic Office from the surveys hitherto made are evidence of the excellence of the work done by naval officers in this field.

PUBLICATION OF THE NAVAL WAR RECORDS.

The preparation for publication of the naval records of the war progresses as rapidly as possible with the limited clerical force provided. In view of the importance of completing this work before the documents in private hands are lost or destroyed, it is recommended that the appropriation for clerks and copyists be increased, and that provision be made for the employment of an agent for the collection of Confederate documents.

BUREAU OF ORDNANCE.

The report of Commodore Montgomery Sicard, Chief of the Bureau of Ordnance, fully relates the operations of this important Bureau during the year, covering the work upon the armament of the new cruisers already referred to; the construction and testing of type guns and carriages at the proving ground at Annapolis, including a modern 6-inch gun, Hotchkiss and Gatling guns, and small-arms; the progress towards testing defective turrets; the manufacture of a wire-wound gun; tests of projectiles; experiments with dynamite and gun-cotton; unsuccessful efforts to discover, for purchase under the act of

March 3, 1883, an American torpedo adapted to naval warfare; and the development of gun-cotton torpedoes and of torpedo material at the Torpedo Station at Newport, R. I., and the instruction there given to naval officers. The report advocates the purchase abroad of one swift torpedo-boat and a certain number of Whitehead torpedoes, and the selection of a new long-range naval ordnance proving ground, the present one being restricted in its use and dangerous.

GUN-FOUNDRY BOARD.

The Gun-Foundry Board, appointed by the President April 2, 1883, in pursuance of the naval appropriation act of March 3, 1883, after having visited Europe for the purpose of fully observing foreign methods of producing heavy guns, presented its report on February 16, 1884. The report was transmitted to Congress by the President with a message dated February 18, 1884.

The report contains complete and authoritative information as to the condition of artillery and the sources of supply in the United States, England, France, Germany, and Russia, a comprehensive statement as to the manufacture of armor for vessels, and the recommendations of the Board on the subjects referred to in the act under which it was convened, namely, which of the navy-yards or arsenals owned by the Government has the best location and is best adapted for the establishment of a Government foundry, or what other method, if any, should be adopted for the manufacture of heavy ordnance adapted to modern warfare, for the use of the Army and Navy of the United States, and the cost of all buildings, tools, and implements necessary to be used in the manufacture thereof, including the cost of a steam hammer or apparatus of sufficient size for the manufacture of the heaviest guns.

The Board recommends that the gun material should be purchased from our own steel manufacturers, and that two gun factories should be established under the control of the Government—one for the Army, at the Watervliet Arsenal, West Troy, N. Y., and one for the Navy at the Washington navy-yard, District of Columbia, for the assembling of the parts and final fabrication of the guns.

The Board considers that every inducement should be offered to attract the private industries of the country to the aid of the Government in providing ordnance for the Army and Navy, and recommends that a sum of money should be fixed as a permanent yearly appropriation to be expended for this purpose, being satisfied that, with such a guarantee against loss, the required material will be produced by our own private steel works.

The report received favorable consideration in Congress, although no final legislative action was taken upon it, and the Board was reconvened by joint order of the Secretary of War and of the Secretary of the Navy, April 29, 1884, and directed to report in what annual installments appropriations could most economically be made for the provision of

modern ordnance, and to prepare plans and estimates for the preparation and purchase of plant for gun factories to complete guns for the Army and Navy, from 6-inch caliber to 16-inch caliber, including buildings and shrinking-pits.

The Board has been actively engaged in carrying out these instructions, and has nearly completed its report, containing plans and estimates in detail for the two gun-factories. After careful inquiry, it has obtained information which indicates that there are responsible steel manufacturers in this country who, although not provided at present with the necessary plant, are willing to construct the same, and to make bids for contracts with the Government for the supply of the requisite material for the heaviest guns adapted to modern warfare, if a guaranteed order of sufficient magnitude, accompanied by a positive appropriation extending over a series of years, should be made by Congress.

All doubts as to the feasibility of the plan being thus removed, the Department urges that early action be taken to provide means for the construction of modern ordnance within the territory of the United States.

BUREAU OF CONSTRUCTION AND REPAIR.

The report of Chief Constructor Theodore D. Wilson describes the *Mohican*, just finished at Mare Island; recommends the completion of the *New York* at the Brooklyn navy-yard; reports the progress of work on the *Miantonomoh*; urges prompt action for the completion of the other monitors, the preparation of the navy-yards for building steel armored and unarmored vessels, and the construction in the yards of at least half the number of any new ships; calls attention to the want of sufficient Government docks, and otherwise narrates the work of the Bureau and makes statements and recommendations concerning the same.

The Department is convinced of the value of experimental works for determining the resistance of ships by towing models, and that great assistance would be derived therefrom in designing high-speed vessels for the Navy and commercial marine.

BUREAU OF STEAM-ENGINEERING.

Engineer-in-Chief Charles H. Loring, in the first annual report made by him, exhibits the general operations of his Bureau for the year, giving the character and the cost for labor and materials of the work done on the engines of each ship; states the present condition of the machinery of all the naval vessels, and the progress of the work upon the machinery of the double-turreted monitors; recommends the completion of the *New York*; considers the condition of the navy-yards with reference to engineering work; discusses the personnel of the Engineer Corps, advising the repeal of that portion of the law of August 5, 1852,

which reduces the number of passed assistant and assistant engineers to one hundred, and asking that the number may be fixed at one hundred and sixty; and calls attention to the previous recommendations of the Bureau and the Department in favor of increasing the pay of the passed assistant engineers.

BUREAU OF PROVISIONS AND CLOTHING.

Paymaster-General Joseph A. Smith reports the details of the expenditures of his Bureau; describes the improved methods of manufacturing clothing; and states the conclusions of the Navy Ration Board, consisting of Rear-Admiral Earl English, Medical Director Philip S. Wales, the Paymaster-General, Commander H. C. Taylor, and Lieut. T. B. M. Mason, which reported May 27, 1884, concerning desirable changes in the ration, which were carried into effect, so far as they were deemed admissible under existing law, by the Navy Ration Regulations, approved November 15, 1884. The Paymaster-General recommends needed changes in the method of purchasing provisions and of preparing and cooking food on board the vessels of the Navy; discusses the method of commuting rations; states the work of the Bureau in fitting out the Greely Relief Expedition; recommends that the Army practice of selling commissary stores to officers and enlisted men may be extended to the Navy; and urges an increase of pay to passed assistant and assistant paymasters during their third and fourth terms of five years' service, on account of the slowness of promotion pending the reduction of the corps required by the act of August 5, 1882.

The Paymaster-General also calls attention to the recent requirement of the Department that the property accounts of the Marine Corps shall be rendered to his Bureau and to the Bureau of Ordnance. To this end Regulation Circulars Nos. 39 and 40, dated October 6 and October 10, respectively, were issued after careful consideration and consultation with the Fourth Auditor and Second Comptroller of the Treasury.

Another subject to which the Paymaster-General asks attention is the payment of naval claims by the Department in accordance with section 3676, Revised Statutes. Section 273 of the Revised Statutes, which confers and defines the powers of the Second Comptroller in relation to naval accounts, makes it his duty "to examine all accounts settled by the Second, Third, and Fourth Auditors, and certify the balances arising thereon to the Secretary of the Department in which the expenditure has been incurred." In the opinion of the Second Comptroller "this explicit language puts it beyond question that the Comptroller is required to certify the balances to the Secretary of the proper Department in every case in which he is required to examine an account, and the Comptroller's duty in regard to an account of this kind is not performed until the balance is certified to the head of the proper Department."

The Fourth Auditor, in a letter to the Department dated December 7, 1883, presented certain objections to transmitting the certificates of settlements to the Secretary of the Navy, none of which objections were based upon any statute.

The Department concurred in the opinion expressed by the Second Comptroller, and in accordance therewith certificates of settled claims are now sent to this Department to be registered and transmitted directly to the persons entitled to receive the money thereon, instead of being sent to them by the Fourth Auditor, as formerly.

The clause in section 3622, Revised Statutes, requiring disbursing officers of the Navy to forward their accounts and vouchers direct to the proper accounting officers of the Treasury, forms an exception to the general provisions of law respecting all other officers or agents of the United States. It does not restrain the heads of Departments from requiring other returns, or duplicate accounts, but it is hardly practicable on vessels at sea to prepare elaborate pay-rolls and other returns in duplicate, in time for them to be reviewed in this Department before settlement at the Treasury. The law should be so changed as to require all returns to be first sent to the Navy Department for preliminary examination and transmission to the accounting officers.

BUREAU OF MEDICINE AND SURGERY.

It appears by the report of Surgeon-General Francis M. Gunnell, that the ratio of mortality for the year 1883 was 4.55 per thousand of the naval force, being a slight increase over the average mortality of previous years—the mean death rate for the last fifteen years having been 4.40 per thousand—notwithstanding there has been an absence this year of any epidemic influences tending to increase the ratio.

The report states the condition of the several hospitals, and expresses the opinion that none of them should be sold. In order to remove the naval quarantine station from Portsmouth, N. H., a transfer has been received from the Light-House Board of Widow's Island, in Penobscot Bay, which at slight expense can be made a safe and convenient resort for any ship which may happen to come from an infected port.

The Museum of Hygiene is commended to attention, and allusion is made to the medical work in the Greely Relief Expedition. The report refers to the method in force for many years of collecting and publishing statistics concerning the health of the Navy, and the character and distribution of its diseases in all parts of the world, states the effect of the system in arousing interest in the pursuit of professional subjects and in developing the faculties of observation and research in sanitary science, and advocates a post-graduate course of study for younger medical officers at the great medical centers of New York, Boston, and Philadelphia.

The Department has to report the discovery of frauds in this Bureau practiced by means of false vouchers for goods never delivered. Sus-

picion was aroused about the first of January last, and some inquiries were instituted without any disclosure. The term of service of the chief of the Bureau, Surgeon General Philip S. Wales, was to expire January 25, and it was determined to investigate more fully after he should retire from office. The extraordinary importunities in his behalf from forty Senators and thirty-one members of the House of Representatives delayed the selection, confirmation, and induction of his successor until April 1, shortly after which the first tangible evidence of fraud came to light, fixing the guilt upon Daniel Carrigan, chief clerk, who had been excluded from his place directly after Surgeon General Wales left, and upon Edwin C. Kirkwood, clerk in charge of accounts. Steps were immediately taken by the United States district attorney to punish the guilty parties. Kirkwood and many of the contractors were arrested, indicted, and are now being tried. Carrigan absconded and has not been found. A court of inquiry was duly ordered to ascertain and report the extent of the frauds, and thorough measures were taken to ascertain whether any similar frauds had been practiced in other Bureaus, but none such have been disclosed, and there is no sufficient reason for believing that they have existed. The amount of suspected vouchers is \$124,835.25, extending over a period from 1876 to 1884, but some portion of the goods paid for was actually delivered, so that the loss is less than the above sum, but the exact amount is not yet ascertained. It appears that Surgeon-General Wales was exceedingly negligent, and that he trusted completely the two clerks and recklessly signed whatever papers they placed before him. The frauds were made possible not by any defect of system, but by a studied neglect on the part of the chief of the Bureau to require, before signing vouchers, the customary evidence from a proper inspecting officer that the goods had been received.

By section 420 of the Revised Statutes the chiefs of the Bureaus are invested with all the authority of the Secretary of the Navy concerning their respective duties; and all moneys are disbursed through the Bureaus without the submission to the Secretary of the bills or vouchers issued. Surgeon General Wales had, therefore, by statute, the fullest possible power over the funds of his Bureau; no formality in the ordinary routine of the Department would have promptly detected frauds in vouchers regularly issued under his signature, and except the dishonest clerks whom he so implicitly trusted no person in the Navy Department but himself seems blamable for the frauds. No prior suspicion of negligence on his part could have been justly attached to him in view of the high character which he had borne and which led so many eminent public men to confidently certify that he had for four years administered the affairs of his Bureau with signal ability and success, and to persistently urge his reappointment.

Undoubtedly the frauds in the Bureau of Medicine and Surgery were made easier by the frequency with which the "exigency clause," so called, under which purchases are made without advertising, was

used by Surgeon-General Wales. On the 10th of December, 1883, the attention of all the chiefs of Bureaus was by the Department especially called to Sections 3709, 3718, and 3722 of the Revised Statutes, which require all purchases by contracts for supplies and services to be made by advertising, except when a public exigency exists, prescribe the mode of advertising for supplies and contracts, and direct that no person shall be received as a contractor "who is not a manufacturer or regular dealer in the articles which he offers to supply"; and they were informed that a person to be a regular dealer, within the meaning of the law, must be regularly engaged in the business of buying the articles and selling the same to the general public, and not merely engaged in the business of selling such articles to the Navy Department; and they were instructed to conform strictly to the provisions of the above statutes and to require conformity thereto from all persons acting under their command or direction.

On the 4th of February, 1884, the chiefs of Bureaus were also informed that there was no rule of the Department allowing purchases to be made in violation of Sections 3709, 3718, and 3722, where the amount did not exceed \$500, because if any such definite rule were to be adopted, then by splitting up orders, the law could be effectually nullified.

On the 3d of July, 1884, the Fourth Auditor called the attention of the Department to the large quantity of supplies procured for the Navy Department under open purchase, and to the necessity of some changes in the methods and forms pertaining to the accounts and blanks in use for Bureau purchases, those chiefly in use being insufficient and dangerous because bearing only the signature of the chief of the Bureau and no subordinate signatures showing the receipt of the supplies. On the 12th of July, the chiefs of the Bureaus were informed of the views of the Fourth Auditor, and were instructed as follows:

"It does not seem that the public exigencies could have required so large a proportion of open purchases. After having given the subject renewed attention you will arrange to conduct your official business in strict accordance with law and regulation, and will correct any erroneous practices which may have prevailed. No departure from legal requirements can be justified by pleading old usage or the custom of your predecessors in office. The law must be your only guide, and you must accept personal responsibility for the performance of duty in strict accordance therewith."

They were also directed at an early date to ascertain the opinions of the Fourth Auditor, and also to confer with the Second Comptroller, with a view to the adoption of the best and safest possible forms to be issued for vouchers for disbursements, in accordance with section 273 of the Revised Statutes; and the Second Comptroller was also asked to confer with the chiefs of the Bureaus and to revise all forms in use,

and to recommend any change deemed by him advisable. Copies of this correspondence are herewith transmitted.

If perfect integrity and fidelity could be relied upon in purchasing-agents, the method of open purchase would be most beneficial to the Government, both in the prices and the quality of the supplies procured, and the many difficulties attending purchases after advertisement, from the lowest bidder, would be avoided. But the wise policy of the law prescribes the latter method except in actual exigencies.

In practice it is frequently difficult to decide who is a regular dealer within the meaning of the statute, and a class of bidders have come into existence whose whole business is bidding for Government contracts and furnishing supplies to the Government on open purchase. The only way to break up such a system is to make awards to higher bidders who are unquestionably regular dealers; and this has been done in some cases. If the law is not a good one it should be repealed; while it remains on the statute book it should be enforced.

MARINE CORPS.

The report of Col. C. G. McCawley, commandant of the Marine Corps, is referred to for the condition of this well-conducted military force. The commandant recommends that appropriations be made for a larger number than 1,500 of the 2,500 privates authorized by present law, and for the 30 second lieutenants also now authorized by law; that better quarters be provided for officers and men at Norfolk; and that some measure be adopted for expediting promotions to the higher grades.

These requests are concurred in by the Department, and the recommendation renewed that Section 1601 of the Revised Statutes be restored, so as to give to the commanding officer the former rank of brigadier-general.

THE NAVAL ACADEMY.

The Naval Academy continues under the command of Capt. Francis M. Ramsay, Superintendent, whose management of the institution is in every way to be commended. His annual report describes the summer practice cruises of the first, third, and fourth classes in the sailing ships *Constellation* and *Dale*, and the mechanical work of the cadets of the second class, who were retained at Annapolis; states the number of candidates who failed or were admitted as cadets during the year, and recommends that section 1514 of the Revised Statutes shall be so modified that hereafter all nominations of cadets shall be made on March 5, and that candidates for admission shall present themselves for examination between the 15th of May and the 1st of June; and, also, that the selection of cadets who are to become officers of the Navy to fill vacancies shall be made upon the completion of the four years' rather than at the end of the six years' course.

The recommendations of the Superintendent are concurred in. It is also deserving of consideration whether the nominations of cadets to

the Naval Academy should not be made, like those to the Military Academy at West Point, one year in advance of entry, thus giving the candidates an opportunity to perfect themselves in those elementary studies in which they are examined prior to admission, and which they have no time to pursue during their four years' course.

The present excellent condition of the Academy is largely owing to the policy adopted by the Department of a strict observance of all laws concerning the Academy, as construed by the Attorney-General, and of absolute non-interference with the Superintendent in enforcing discipline and with the decisions of the Academic Board in the cases of cadets found deficient in their studies.

The schoolmaster's duty must be performed by the Superintendent and other instructors. The interposition of the Department, at the solicitation of the friends of cadets, which has at times been frequent, is in a high degree injurious. It has been of late absolutely avoided with the most beneficial results.

Of the cadets who completed their six years' course and finally graduated in 1884, four were appointed as assistant engineers, five as second lieutenants in the Marine Corps, and sixteen as ensigns, all selected in order of merit, under the act of August 5, 1882; and the remaining seventeen surplus graduates were granted their certificates of graduation, honorable discharges, and one year's sea-pay, as authorized by law.

The report of the Board of Visitors, dated June 7, 1884, recommends that provision should be made for subjecting the cadets to the operation of all naval laws while at the Academy; that the decision of the Academic Board dismissing cadets for misconduct be made absolute and final; and that the appointment of cadets be made a year before the time of intended admission.

The report considers the expediency of making the period of study five years instead of four, and states that "no change is desirable in the present standard of scholarship, whether for admission or for subsequent graduation."

The Board reports the buildings and grounds to be in proper sanitary condition, but recommends the acquisition of a small piece of land needed to connect the Academy grounds with those of the Naval Hospital, which latter should not be parted with, and advises the erection of new quarters for cadets and the completion of the house of the superintendent. It also suggests that the law as to the Board of Visitors should be amended to classify its members so that their positions may be held for two or three years in succession.

Several members of the Board express the opinion, stating the reasons upon which it is based, that the present method of appointing cadets to the Academy should be changed, and that candidates should be subjected to open competitive examinations within the Congressional districts.

REPORT OF THE ADMIRAL OF THE NAVY.

The report of the admiral presents certain views in reference to naval expenditures during the past fifteen years, and offers valuable suggestions on the subject of the reconstruction of the Navy. Among modern vessels he especially commends the type of the Esmeralda, with certain modifications. He advises the completion of the monitors, the construction of the seven vessels recommended in the report of the Department of last year, and again in this, and dwells strongly upon the necessity of gunboats and torpedo-boats. He also suggests the construction of a sea-going ironclad, and of four heavy monitors, and presents the plans which he recommends for adoption in the construction of the 900-ton gunboat, estimates for which have been submitted by the Department.

EXPENDITURES.

The appropriations originally available for the year ending June 30, 1884, excluding the sum of \$59,813 drawn from the Navy Pension Fund for the support of the Naval Asylum, amounted to \$14,145,434.23.

The following statement gives a comparison between the appropriations and expenditures for the year ending June 30, 1884, as shown on that date:

APPROPRIATIONS FOR FISCAL YEAR ENDING JUNE 30, 1884.

Appropriations originally available.....	\$14,145,434 23
Urgent deficiency appropriation, act of May 1, 1884.....	254,000 00
Balance of appropriation of 1883 for steel rifled breech-loading guns, reappropriated March 3, 1883.....	83,265 00
Balance June 30, 1883, of appropriations of 1883 for pay of the Navy and pay of the Marine Corps (continuous).....	2,266,740 82
Gross amount available	16,749,440 05
Deduct amount due general account of advances.....	818,668 31
Net amount available.....	15,930,771 74
Amount drawn from the Treasury under appropriations for 1884	14,315,623 26
Balance on June 30, 1884.....	1,615,148 48

The item of \$14,315,623.26 stated above is the amount drawn by warrants from the Treasury between July 1, 1883, and June 30, 1884, less the amount refunded during the same period. A part of this amount, namely, \$1,203,016.32, was in the hands of disbursing officers and agents at the latter date, as stated by the Fourth Auditor.

TOTAL EXPENDITURES DURING THE FISCAL YEAR ENDING JUNE 30, 1884.

Under appropriations of 1884.....	\$14,315,623 26
Under appropriations of 1883.....	487,564 61
Under appropriations of 1882.....	26,221 76
Under continuous appropriations.....	2,463,198 24
	17,292,607 87
Less amount refunded from appropriation 1883-'84	6 43
Total expenditures during fiscal year ending June 30, 1884.....	17,292,601 44

APPROPRIATIONS FOR THE CURRENT FISCAL YEAR.

Available appropriations for six months ending December 31, 1884 . . .	\$7,255,283 48
Drawn by warrant from July 1 to November 1	\$5,671,521 60
Refunded during same period	1,288,276 67
Actual expenditures	4,383,244 93
Being \$612,283.15 less than was expended during the same period of last year, and leaving available November 1, 1884	2,872,038 55

ESTIMATES.

The estimates for the fiscal year ending June 30, 1886, are—

Pay of the Navy	\$6,955,780 00
Pay, miscellaneous	350,000 00
Coal, hemp, and equipment	931,000 00
Ordnance and torpedo corps	987,715 00
Pay of civil establishments of navy-yards	143,986 25
Navigation work and ocean surveys	192,000 00
Repairs and preservation of vessels, under Construction Bureau	1,750,000 00
Steam machinery	1,000,000 00
Provisions for the Navy	1,275,840 62
Medical Department	60,000 00
Repairs of hospitals	20,000 00
Naval hospital fund	30,000 00
Naval Academy	186,025 45
Contingent expenses of Department and Bureaus	241,000 00
Naval Asylum, Philadelphia	98,111 00
Maintenance of navy-yards	425,289 00
Support of Marine Corps	935,690 56
Making for the ordinary purposes of the service	15,582,437 88

PUBLIC WORKS.

New Naval Observatory	586,138 00
Repairs and preservation of navy-yards	838,200 00
Improvements of navy-yards	733,883 00
Naval Training Station, Coasters' Harbor Island, Rhode Island	60,000 00
Total for ordinary purposes and public works	17,800,658 88

INCREASE OF THE NAVY.

For completion of double-turreted monitors:

Armored hulls	\$2,923,654 62
Engines for Monadnock	206,000 00
Navigation outfit	30,000 00
Ordnance	1,073,000 00
	\$4,232,654 62
One cruiser of 4,500 tons displacement	1,125,000 00
One cruiser of 3,000 tons	825,000 00
One dispatch vessel of 1,500 tons	475,000 00
Two heavily armed gunboats of 1,500 tons each	912,000 00
One light gunboat of 750 tons	263,000 00
One gunboat of 900 tons	298,000 00
One steel ram	515,000 00

One cruising torpedo-boat.....	\$72,000 00	
Two harbor torpedo-boats.....	57,000 00	
	<hr/>	
	4,542,000 00	
Ordnance for new cruisers and gunboats	2,001,918 00	
	<hr/>	\$6,543,918 00
One armored vessel of 8,500 tons.....		2,900,000 00
Two auxiliary steam barques for training squadron		345,000 00
For completion of New York		590,000 00
Steel rifled breech-loading guns.....		310,000 00
Tools for navy-yards for Bureau of Construction		150,000 00
		<hr/>
Making for the increase of the Navy.....		15,071,572 62

If the 20 per cent limitation upon the repairs of wooden vessels is to be retained, as recommended by the Department, the appropriations for repairs and preservation of vessels and for steam-machinery may be reduced to one-half the amounts above estimated.

If authority be given by Congress for the completion of the monitors, at the estimated cost of \$4,232,654.62, and the construction of the new steel war vessels at \$9,443,918, the sums which it would be desirable to appropriate for use during the next fiscal year are as follows:

Monitors: Armored hulls, one-half.....	\$1,461,827 31	
Monadnock's engines, all.....	206,000 00	
Ordnance, one-half	536,500 00	
	<hr/>	
Total		2,204,327 31
Cruiser of 4,500 tons, two-thirds	\$750,000 00	
Cruiser of 3,000 tons, two-thirds	550,000 00	
Dispatch vessel of 1,500 tons, all.....	475,000 00	
Heavily-armed gunboats, all	912,000 00	
Light gunboat, all	263,000 00	
Gunboat of 900 tons, all	298,000 00	
Steel ram, one-half	257,500 00	
Cruising torpedo-boat, all	72,000 00	
Harbor torpedo-boats, all.....	57,000 00	
	<hr/>	3,634,500 00
Ordnance for new cruisers and gunboats, one-half.....		1,000,959 00
Armored vessel, one-third		966,666 67
		<hr/>
Grand total.....		7,806,452 98

COAST DEFENSES AND COALING STATIONS.

The Department renews the recommendation, made in the report of last year, that as an important measure of national defense an interior line of water-ways should be constructed from the Gulf of Mexico to the Massachusetts coast.

The question of providing coaling stations abroad, also there referred to with specific recommendations, becomes year by year more important and pressing. Any well-considered scheme of naval defense requires that this ordinary and obvious precaution should be taken. Whether our cruisers have full sail-power or not, they will still require

frequent supplies of coal at distant points. If they attempt, in default of the necessary coaling stations, to cruise under sail alone, their offensive power will be reduced to the lowest limit, and they will themselves become the prey of vessels of one-third their size, approaching under steam. The Department therefore renews its recommendation that our coaling stations at Honolulu, the Samoan Islands, and at Pichingue, in Lower California, shall be fixed by Congress on a firm basis, and that additional coaling and naval stations shall be established at some or all of the following points: "Samana Bay, or some port in Hayti; Curaçao, in the Caribbean Sea; Santa Catharina, in Brazil; the Straits of Magellan; La Union, in Salvador, or Amapala, in Honduras; Tullear Bay, in Madagascar; Monrovia, in Liberia; the island of Fernando Po; and Port Hamilton, in the Nan-how islands of Corea; from which latter naval station and the ports of Corea there should be established a regular line of steamers carrying the United States flag, connecting with the present American line between San Francisco and Japan. Similar stations should in addition be maintained, one at the best point on the Atlantic side of the Isthmus of Panama, and another at the islands of Flamenco, Perico, Culebra, and Ileñao, on the Pacific side, now owned by American corporations."

GENERAL RECOMMENDATIONS.

In the last two annual reports made by this Department, various recommendations and suggestions were made bearing upon the condition and employment of the naval personnel, which occasion is now taken to restate and reiterate. They concern, first, the reform of abuses which have crept into the service, and, secondly, the adoption of measures beneficial to the officers.

SOLICITATIONS IN BEHALF OF OFFICERS.

Prominent among existing abuses is the practice of endeavoring to bring about or modify departmental action in behalf of officers by the solicitations of those possessed of political or social influence. The detail of officers must be so arranged as to give regular and frequent sea service, not only for considerations of fairness, but for the welfare of the service as dependent upon the efficiency of the officers themselves. The nature of service at sea is such that practice must be constant in order to preserve efficiency. Five years of intermission not only have the effect of making an officer lose his grasp of his work, but create a positive disinclination for sea-duty that tends further to impair efficiency. Under this administration the effort has been made to limit and apportion shore service in such a way as to secure the best results. More must be done in the same direction before the detail of officers can approach a perfect system.

Some radical measures should be taken to render the solicitations of outside persons in favor of officers discreditable both to the patron and

to the officer for whom influence is exerted. It is an impertinence to the Department, proceeding on the assumption that its authorities will so far forget the force of their public duty as to administer a governmental establishment upon considerations of a private and personal nature, and that they will yield to the importunities of friends what a sense of public obligation would forbid. Possibly the result might be accomplished by a rule which should cause the publication of communications of this nature addressed to the Department. Whatever method may be adopted, the Department should endeavor, as far as lies in its power, to make such intervention in behalf of officers a public discredit to all concerned.

RESTORATION OF DISMISSED OFFICERS.

No more powerful influence for the demoralization of the naval service is to be found than that which results from the restoration of officers dismissed for drunkenness or other misconduct, or for demonstrated incapacity. Cases of restoration which have occurred in the past would hardly have been possible but for a lenient spirit in the service, which, although it may proceed from kindly motives, indicates an indifference on the part of officers themselves concerning the tone of the Navy, and a disregard of their imperative duty to contribute by every means in their power to the maintenance of a high standard of professional character. Public opinion should not only sternly condemn all officers who are guilty of such misconduct as to disqualify them from service on the active list of the Navy, but also those who, from whatever cause, lend themselves to efforts for the restoration of worthless and ejected members of their profession.

While affirming in the strongest terms its opinion of the general inexpediency of restoring dismissed officers, the Department also relies for the protection of the service upon the unconstitutionality of legislation for such purposes, as set forth in the message of July 2, 1884, returning without executive approval a bill contemplating such action, as follows:

"It is apparent that, should this bill become a law, it will create a new office, which can be filled by the appointment of the particular individual whom it specifies, and cannot be filled otherwise; or it may be said, with perhaps greater precision of statement, that it will create a new office upon condition that the particular person designated shall be chosen to fill it. Such an act, as it seems to me, is either unnecessary and ineffective or it involves an encroachment by the legislative branch of the Government upon the authority of the Executive. As the Congress has no power under the Constitution to nominate or appoint an officer, and cannot lawfully impose upon the President the duty of nominating or appointing to office any particular individual of its own selection, this bill, if it can fairly be construed as requiring the President to make the nomination and, by and with the advice and consent of the Senate, the appointment which it authorizes, is in manifest violation of the Constitution. If such be not its just interpretation, it must be re-

garded as a mere enactment of advice and counsel, which lacks, in the very nature of things, the force of positive law, and can serve no useful purpose upon the statute-books."

The foregoing clear exposition of the force of section 2 of Article II of the Constitution which provides that the President "shall nominate and by and with the advice and consent of the Senate shall appoint ambassadors, other public ministers and consuls, judges of the Supreme Court, and *all other officers of the United States*," shows that an effectual barrier has been established by the Constitution to any restoration to the Navy, by legislation, of particular officers who have been dismissed therefrom; and the Supreme Court has further established the proposition that such dismissals when once accomplished cannot be revoked by the Executive. No more important doctrines than these can be stated bearing upon the welfare of our Navy personnel.

BENEFICIAL MEASURES.—PROMOTION.

Among the beneficial measures to be adopted to relieve the personnel from existing burdens or hardships, the foremost in importance is one which shall secure the more rapid advancement of capable officers. There are under present laws 325 lieutenants of both grades. These are not young men. A large number if not all of them have reached an age when they are fit for command. Under existing arrangements they will not have commands for many years to come, and many of them will retire from active service in grades far short of the highest. This continuance until advanced age in a subordinate position destroys the power of initiative, fosters an instinctive avoidance of responsibility, and takes away all capacity for command when it comes.

In order to hasten promotion, the most vital step is to secure the removal from the active list of those who from age or other causes have gradually become unfitted for service at sea. The law has wisely fixed a term at which the active duty of all officers shall cease. This enactment proceeds on the assumption that the period of an officer's usefulness comes to an end at sixty-two years of age. There are doubtless a few rare and exceptional cases in which the Navy, by the adoption of this arbitrary rule, loses an officer still capable of valuable service. There are many more cases in which the term assigned by law as the end of a useful career is anticipated by the progress of mental or physical waste or deterioration. In such cases the continuance of the officer on the active list is a gross injustice to those in the lower grades, and an injury to the whole service. To the suggestion that some of these officers may have served during the war, and that it would be an act of ingratitude to retire them before the fixed age, to make room for younger men, it may be replied that though a pension roll may be a just provision for officers whose usefulness has passed away, the active list of the Navy should not be used for this purpose. That list should contain only the names of those who may safely be sent to sea

to perform duties falling to their respective grades; and unless the service recognizes this fact and acts upon it there is danger of sweeping legislation under which the good and the inefficient will alike suffer.

The responsibility for delay in effecting this needed reform rests partly with the Department and partly with the service itself. Up to a recent period the Department had taken no action looking to a remedy for the evil. In the annual report of last year, however, a measure was proposed which it was believed would accomplish the desired result, and at the same time cause the least possible disturbance of existing interests. The proposed plan contemplated the selection from the whole number of officers in each corps, by a board of officers of high rank, of a number of officers equal to that prescribed for that corps by the act of August 5, 1882, and the retention on a supernumerary list of the officers not selected, with leave-of-absence pay, and without promotion, subject only to active service in cases of special exigency. A bill was soon after introduced in the Senate covering the recommendation of the Department. Interrogatories were addressed to officers, calling for a full expression of opinion as to the steps necessary to be taken to bring about the result, but the replies, of which a large number were received, contained objections to every proposition, and submitted no definite plan as a substitute.

It is clear that the movement towards reform, if it is to have any vitality, must receive a stimulus and encouragement in the service itself. If the officers do not put forth an effort, nobody else will. It is to be presumed that they know best what are the needs of their own body, and it is for them to consider whether the service shall continue to be subject to reproach, and the advancement of capable men be retarded, through an excessive conservatism, which looks not at the good of the whole establishment, but at securing to individuals, the unworthy as well as the worthy, their emoluments and positions.

If it should be found that insuperable objections exist to the measure proposed last year, the Department presents an alternative, with an urgent recommendation that it shall be made at an early date the subject of Congressional examination and action. The details of the plan are as follows:

1. That the active list of line officers of the Navy, in addition to the present admiral and vice-admiral, whose pay and rank shall continue as heretofore, shall consist of six vice-admirals, having the pay now allowed by law to rear-admirals, and ranking with major-generals; ten rear-admirals, having the pay now allowed by law to commodores, and ranking with brigadier-generals; fifty captains; ninety commanders; one hundred and twenty-seven lieutenant-commanders; two hundred and ninety lieutenants; and one hundred and fifty ensigns: the junior grade of lieutenant being abolished, and the officers now in that grade being commissioned immediately as lieutenants, but with the pay now allowed to junior lieutenants, until their arrival, in the regular course

of advancement, to a position corresponding to the foot of the present list of lieutenants.

2. That all officers be retired immediately who are to attain the age of sixty-two years within two years from July 1, 1885, the commodores so retired to have the rank of rear-admiral; and that the officers remaining on the list be appointed in the order of their seniority, to the grades of vice-admiral and rear-admiral, subject to the usual examination.

3.. That section 1445 of the Revised Statutes, excluding officers of the junior grades of the line and staff corps from retirement on account of age, be repealed.

4. That whenever a vacancy shall occur in the list of rear-admirals or in that of captains, a Board shall be convened, to be composed of not less than three officers of flag rank, who shall designate, in the case of each vacancy in the rear-admirals' list, two captains, and in the case of every fourth vacancy in the captains' list, one commander, to be retired; and that the captains and commanders so designated shall be placed on the retired list of their grade, under the same conditions as if they had been retired on account of age; and thereafter the senior captain or the senior commander, as the case may be, shall be promoted, subject to the usual examination, to fill the vacancy in the grade above.

As an additional safeguard, it should be further provided that no officer should be reduced in rank or deprived of his commission by anything contained in the proposed measure; nor should it affect in any way existing laws in regard to officers who may have received the thanks of Congress.

The essential features of the above plan are the retirement of two captains for every captain promoted, and one commander for every four commanders promoted; and the rearrangement of the numbers of officers in the different grades, retaining the aggregate fixed by the act of August 5, 1882. It is believed, as the result of careful calculation, that such a measure would bring about a continuous and regular flow of promotion, and at the same time relieve from active service those who, from advancing age or from other causes, are unequal to its heavy burdens and grave responsibilities, while giving them a comfortable competence.

The incidental provisions of the above plan, which might be adopted without reference to the main question, are the substitution of the grades of vice-admiral and rear-admiral for those of rear-admiral and commodore, respectively, in order that officers in command of the squadrons of the United States may be placed on a footing of equality with the officers in command of foreign squadrons, without in any way altering or disturbing their relative precedence with general officers of the Army; and the extension to junior officers who may have reached the limits of age, of the provisions of the retiring laws, now confined to officers above the grade of lieutenant-commander. In order to provide for the immediate adoption of the plan, it is further recommended that *those officers* who have but two years more to serve be retired at once.

The Department renews the special recommendations made in its report of last year for the relief of lieutenants, passed assistant engineers, and mates; and it would also suggest that the pay of ensigns be made more nearly equal to that of officers of the lowest grades in the other corps.

ADDITIONAL EMPLOYMENT FOR NAVAL OFFICERS.

If nothing can be done to prevent the present stagnation in the lower grades of the service, it is at least possible to give to the officers placed under such heavy disadvantages, employment and responsibilities suited to their age and experience. In earlier reports the Department has stated at length its views upon this subject, and it only designs to make a general reference to them at the present time.

REVENUE-MARINE NAVY.

It has been pointed out that at the time when Congress deemed it wise to reduce the number of officers in the Navy, presumably because that number was greater than their occupations demanded, there was in the employ of the Government a subsidiary navy, with its separate corps of officers, under the fiscal department of the executive, performing duties at once military and nautical, indistinguishable in all their essential requirements from those of the Navy proper; that this subsidiary organization, known as the Revenue-Marine Service, was liable in time of war for war service, while in time of peace it served as a coast-guard; that it had its separate fleet of vessels, its guns, its military drills, its naval school; and that the two navies covered so nearly the same field of operations that, in the words of the Treasury official through whose division the management of the Revenue-Marine was conducted, it was "difficult to conceive that discrimination could be made by the law between services subjected to equally hazardous and equally important military duties, both in time of peace and in time of war." It was proposed to strengthen both organizations, the Navy proper and the subsidiary navy, by uniting them; securing to the officers now in the revenue service the tenure of their positions and their emoluments by every safeguard; bettering their condition by extending to them the benefit of naval laws, which they had sought in vain to acquire for their own corps; and opening the service, as vacancies occurred at the foot of the list, to the present junior officers of the Navy. The plan was conceived on the most favorable basis for the existing corps of Revenue Marine officers, and it is a singular and noteworthy fact that, although the officers of the Navy had nothing to do with its inception, and in formulating it only acted under the Department's direction, the fears of the Revenue Marine Corps were so aroused by misrepresentations and scandalous charges on the part of interested individuals that they were led, with some exceptions, to regard a movement in the com-

mon interest of both services as a hostile attack, and rejected the very propositions which their free judgment would doubtless have eagerly welcomed.

In thus frankly alluding to the causes of opposition to the measure, it is not the purpose of the Navy Department to represent that it was actuated solely or chiefly by the advantages to be derived from the change by the officers of the Revenue Marine. Such considerations, although important, could not form the ground of action on the part of the Secretary of the Navy. The question was approached, as it properly should be approached, from the starting-point of naval reform; but in pursuing the main object every care was taken to avoid infringing upon vested rights or disturbing vested interests.

LIGHT-HOUSE NAVY.

A second subsidiary fleet is maintained in the public service, employment in which should also be open to naval officers. This is composed of the vessels of the Light-House Establishment, numbering twenty-three steamers, suitable in time of war for auxiliary use in the Navy. These vessels are now officered by seafaring men, with no naval organization or training, whose maintenance forms a large item in the cost of our light-house service. It is estimated that the sum of \$100,000 per annum would be saved by employing naval lieutenants, ensigns, and engineers in these vessels, while the duty thus imposed upon them of accurately placing buoys and handling small steamers on the coast would be a direct professional benefit.

COAST-SURVEY NAVY.

A third fleet, that of the Coast and Geodetic Survey, is at the present time intrusted to naval officers. Their duties include not only the navigation of the vessels, but the execution of all the hydrographic and a part of the topographic surveys for coast-charts, as well as the prosecution of scientific investigations of the bed of the ocean. In performing these duties, they work under another department, being withdrawn for the time from the direction and control of their natural head, and placed on a subsidiary footing elsewhere. For this artificial arrangement there is not a shadow of reason, and it presents grave difficulties of a positive kind. In the first place, the withdrawal of the officers of the Navy from the direction of the Navy Department is in itself prejudicial to discipline, and a constant source of inconvenience. Secondly, there is a clear injustice, whatever efforts may be made to avoid it in practice, in requiring naval officers to perform naval duties under another chief, with whose office they can never be identified, and giving them work to do, the results of which will be formulated and published by other hands, whose real efforts are devoted to a work remote from maritime affairs. The Coast Survey, by its gradual development into an office for geodetic operations, has transferred its main sphere of employment to the interior of the country, and the observations necessary

for the coast charts have been turned over to the naval officers, detailed for duty under the Superintendent, who still retains the direction of their labors. At the same time the Navy Department is maintaining as a necessary part of its organization a Hydrographic Office, which performs exactly the same work upon foreign coasts which the Coast Survey, through the assistance of naval officers, performs upon our own. Every reason exists for a reorganization of these two offices in such a way that all the hydrographic surveying of the Government shall be performed under a single head, and that the direction of the naval officers who do the actual work shall proceed from the Hydrographic Office of the Navy Department.

It is believed that the above and all other branches of Government service, whose duties are essentially nautical, demanding the same acquirements and the same experience as are to be found among naval officers, should be thrown open to them, and that the direction of the services should be intrusted to the Navy Department, whereby greater unity of purpose and consistency of action would be secured. The Navy in time of war comprises the whole maritime force of the Government, and each partial nucleus of that force should be brought permanently under the general naval administration, instead of continuing as a foreign growth in a department organized for a totally different purpose.

It is with a deep conviction of its essential truth, only strengthened by added experience and observation, that the Department now takes occasion to repeat the fundamental doctrine upon which the above conclusions rest—a doctrine first enunciated two years ago, and renewed in the report of last year, *“that the officers and seamen of the Navy should be employed to perform all the work of the National Government upon or in direct connection with the ocean.”* Notwithstanding the opposition of those who, suspecting in the doctrine an impending danger to themselves, assailed with rancor the administration of the Department and the motives of naval officers, and endeavored by personal assault to divert attention from the main question, and to confuse the broad and indisputable principle with irrelevant issues, there are unmistakable signs of a growing sentiment in favor of the proposition, and of its application to the organization of the public service. It is believed that the day is not far distant when that sentiment will make itself heard with no uncertain voice, and will demand recognition. That changes so considerable and so far-reaching should be accomplished at once is not to be expected; but the ultimate result, although delayed, is inevitable, and it is a source of satisfaction to the Department that the way to accomplish it has been clearly pointed out.

THE COMMERCIAL MARINE.

The close connection between the improvement of the Navy and the development of a flourishing mercantile marine has been often pointed

out, but has hitherto failed so to fasten itself upon public opinion as to lead to any direct governmental action. Without a prosperous carrying trade on the ocean in ships built in this country, it is impossible to reach a high degree of naval efficiency. The germ of a maritime force may exist, but it must remain undeveloped while there is no commercial fleet and no maritime population upon which to draw as a naval reserve. Can it be supposed that in the event of war fifty vessels of all sizes and 8,000 men will fight our naval battles, transport our troops, maintain blockades, and cut off the enemy's commerce? Yet almost within such narrow limits are we now confined by the deplorable condition of our commercial marine.

In order to make our merchant fleet commensurate with our trade, our coast-line, and the number and wealth of our commercial cities, it is necessary to have not only river steamboats and lake craft, not only a few stray sailing vessels and coasting steamers, but great lines of ocean steamships of high speed and large capacity, forming regular permanent communication with Europe, with South America, with Asia, with Australia, carrying our flag to the most distant lands, and saving to our people the vast profits, now grasped by other hands, in carrying our imports and exports across the sea.

Observation and experience show that there is one way and only one to accomplish this result, through direct encouragement given by the Government to those who are willing to undertake such enterprises. Whether in the form of bounties upon construction, or of payment for carrying the mails, or both, such aid must be tendered by the Government before American capitalists can be induced to embark in the business. Each method has its special advocates, and each has been successfully tried abroad. Until one or the other is adopted by the United States, our maritime development will be arrested, and our Navy will suffer and decline.

A recent enactment has repealed the laws requiring all American vessels arbitrarily to carry the foreign mails. This salutary measure should now be supplemented by a provision that contracts for carrying such mails in American lines of steamers over all the principal ocean highways should be let for terms of years to the lowest bidder, adequate compensation therefor to be paid by the Government upon the same principle as that adopted in establishing our great national post-routes on the land.

Not until by such peaceful methods we restore our commercial power and cover not only our own territory, but the ocean, with the proofs of our resources, our enterprise, and our skill, shall we become, in fact as well as in name, the equal of the other great nations of the world.

WILLIAM E. CHANDLER.

Secretary of the Navy.

PAPERS

ACCOMPANYING

THE REPORT OF THE SECRETARY OF THE NAVY.

ESTIMATES, SECRETARY'S OFFICE, ETC.

Estimates of appropriations required for the service of the fiscal year ending June 30, 1886, by the Navy Department.

Detailed object of expenditure, and explanations.	Estimated amount which will be required for each detailed object of expenditure.	Amount appropriated for the current fiscal year, ending June 30, 1885.
SALARIES, OFFICE OF THE SECRETARY OF THE NAVY.		
Secretary, July 7, 1884.....	\$8,000	
Chief clerk (same act)	2,500	
Disbursing clerk (same act)	2,250	
Five clerks of class four (same act)	9,000	
One clerk of class four, in charge of files and records (submitted)	1,800	
Three clerks of class three, July 7, 1884.....	4,800	
One stenographer (same act).....	1,600	
One stenographer (same act).....	1,400	
Two clerks of class two (same act)	2,800	
Six clerks of class one (same act)	7,200	
Submitted, that one of the clerks of class one may be made a clerk of class two (submitted)	200	
Four clerks, at \$1,000 each, July 7, 1884	4,000	
One telegraph operator (same act)	1,000	
One carpenter (same act)	1,000	
Two messengers (same act)	1,680	
Three assistant messengers (same act).....	2,160	
One messenger boy (same act)	420	
One messenger boy (same act)	240	
Three laborers (same act)	1,980	
One clerk of class two (for Inspection Board, same act)	1,400	
One laborer (for Inspection Board, same act) ...	660	
One clerk of class two (for Examining and Retiring Board, same act,).....	1,400	
One laborer (for Examining and Retiring Board, submitted)	660	
One clerk of class one (in care of library, July 7, 1884)	1,200	
One assistant messenger (in care of library, same act).....	720	
	60,070	\$57,410
CONTINGENT EXPENSES, NAVY DEPARTMENT.		
For stationery, furniture, newspapers, plans, drawings, drawing materials, freight, expressage, postage, and other absolutely necessary expenses of the Navy Department and its various bureaus and offices, July 7, 1884 ...	18,500	
	13,500	11,000
PRINTING AND BINDING.		
Printing and binding for the Navy Department, to be executed under the direction of the Public Printer	75,000	62,000

Estimates of appropriations required for the service of the fiscal year, &c.—Continued.

Detailed objects of expenditure, and explanations.	Estimated amount which will be required for each detailed object of expenditure.	Amount appropriated for the current fiscal year ending June 30, 1895.
CONTINGENT EXPENSES.		
<p>For rent and furniture of buildings and offices not in navy-yards; expenses of courts-martial and courts of inquiry, boards of investigation, examining boards, with clerks and witnesses' fees, and traveling expenses and costs, stationery and recording expenses of purchasing paymasters' offices at the various cities including clerks, furniture, fuel stationery, and incidental expenses; newspapers and advertising, foreign postage; telegraphing, foreign and domestic, telephones; copying, care of library; mail and express wagons, and livery and express fees, costs of suits, commissions, warrants, diplomas, and discharges; relief of vessels in distress, and pilotage, recovery of valuables from shipwrecks; quarantine expenses care and transportation of the dead; reports, professional investigation, cost of special instruction, and information from abroad, and the collection and classification thereof; and all other emergencies and extraordinary expenses, arising at home or abroad, but impossible to be anticipated or classified, exclusive of personal services in the Navy Department or any of its subordinate bureaus or offices at Washington, District of Columbia.....</p>	\$100,000 00	\$100,000 00
PAY, MISCELLANEOUS.		
<p>For two secretaries, one to the Admiral and one to the Vice-Admiral; clerks to paymasters, clerks at inspections, navy yards and stations, and extra pay to men enlisted under honorable discharge, commissions and interest, transportation of funds, exchange, mileage to officers while traveling under the orders of the United States and for actual personal expenses of officers while traveling abroad under orders, and for traveling expenses of apothecaries, yeomen, and civilian employes and for actual and necessary traveling expenses of naval cadets while proceeding from their homes to the Naval Academy for examination and appointment as cadets, and for payment of any such officers as may be in service, either upon the active or retired list during the year ending June thirtieth, eighteen hundred and eighty-six, in excess of the numbers of each class provided for in this act, and for any increase of pay arising from different duty, as the needs of the service may require</p>	350,000 00	350,000 00

Statement of the appropriations for the fiscal year ending June 30, 1884, for the Department of the Navy, showing the amount appropriated under each specific head of appropriation, the amount expended under each head, and the balance remaining unexpended on the 30th of June, 1884.

	Balance on hand June 30, 1883.	Appropriations for fiscal year ending June 30, 1884.	Transferred to appropriations by appropriation warrant.	Transferred from appropriations by appropriation warrant.	Amounts applicable to the service for the fiscal year ending June 30, 1884.	Amount expended fiscal year ending June 30, 1884.	Balances June 30, 1884.
Pay of the Navy	\$2,051,072 59	\$7,133,980 00	.....	.....	\$9,185,052 59	\$7,002,501 84	\$2,182,550 75
Pay, miscellaneous	300,000 00	.....	.....	.....	279,983 83	20,016 17
Contingent, Navy	100,000 00	.....	.....	.....	97,830 02	2,169 98
Pay of the Marine Corps	215,668 23	642,985 00	.....	.....	858,653 23	633,712 63	224,940 60
Contingent, Marine Corps	25,000 00	.....	.....	.....	24,999 68	32
Provisions, Marine Corps	60,000 00	.....	.....	.....	59,983 59	16 41
Clothing, Marine Corps	77,000 00	.....	.....	.....	76,836 63	463 37
Fuel, Marine Corps	18,000 00	.....	.....	.....	17,976 41	23 59
Military stores, Marine Corps	9,786 50	.....	.....	.....	9,422 68	863 82
Transportation and recruiting, Marine Corps	10,000 00	.....	.....	.....	10,000 00	.....
Repairs of barracks, Marine Corps	10,000 00	.....	.....	.....	10,000 00	.....
Forage for horses, Marine Corps	5,400 00	.....	.....	.....	3,550 00	1,850 00
Pay, professors and others, Naval Academy	53,539 00	.....	.....	.....	52,581 75	977 25
Pay, watchmen and others, Naval Academy	23,062 50	.....	.....	.....	23,062 50	.....
Pay, mechanics and others, Naval Academy	14,500 23	.....	.....	.....	14,590 23	.....
Pay, steam employes, Naval Academy	7,671 00	.....	.....	.....	7,671 00	.....
Repairs, Naval Academy	21,000 00	.....	.....	.....	21,000 00	.....
Heating and lighting, Naval Academy	17,000 00	.....	.....	.....	17,000 00	.....
Library, Naval Academy	2,000 00	.....	.....	.....	2,000 00	.....
Stationery, Naval Academy	2,000 00	.....	.....	.....	2,000 00	.....
Board of Visitors, Naval Academy	1,500 00	.....	.....	.....	1,500 00	.....
Chemistry, Naval Academy	2,500 00	.....	.....	.....	2,500 00	.....
Miscellaneous, Naval Academy	34,600 00	.....	.....	.....	34,600 00	.....
Stores, Naval Academy	800 00	.....	.....	.....	800 00	.....
Materials, Naval Academy	1,000 00	.....	.....	.....	1,000 00	.....
Navigation and navigation supplies	100,000 00	.....	.....	.....	83,088 81	16,911 19
Ocean surveys, Navigation	10,000 00	.....	.....	.....	7,106 91	2,893 09
Contingent, Navigation	4,000 00	.....	.....	.....	3,853 42	146 58
Civil establishment, Navigation	5,000 00	.....	.....	.....	4,955 97	44 03
Ordnance and ordnance stores	150,000 00	.....	.....	.....	143,080 12	6,909 88
Steel rifled breech-loading guns	83,939 10	.....	\$674 10	83,265 00	80,643 40	52,581 60
Repairs, Ordnance	15,000 00	.....	.....	.....	13,565 34	1,434 66
Contingent, Ordnance	3,000 00	.....	.....	.....	2,999 40	50
Civil establishment, Ordnance	5,000 00	.....	.....	.....	4,993 00	5 00
Torpedo corps	50,000 00	.....	.....	.....	45,689 49	4,310 51
Torpedoes	100,000 00	.....	.....	.....	.....	100,000 00
Equipment of vessels	800,000 00	.....	.....	.....	792,844 41	7,155 59
Transportation and recruiting, Equipment and Recruiting	40,000 00	.....	.....	.....	34,317 32	5,682 68
Contingent, Equipment and Recruiting	15,000 00	.....	.....	.....	14,869 45	130 55

Statement of the appropriations for the fiscal year ending June 30, 1884, for the Department of the Navy, &c.—Continued.

	Balance on hand June 30, 1883.	Appropriations for fiscal year ending June 30, 1884.	Transferred to appropriations by appropriation warrant.	Transferred from appropriations by appropriation warrant.	Amounts applicable to the service for the fiscal year ending June 30, 1884.	Amount expended fiscal year ending June 30, 1884.	Balance June 30, 1884.
Civil establishment, Equipment and Recruiting.		\$9,000 00				\$8,883 44	\$116 56
Maintenance, Yards and Docks		200,000 00				105,806 05	4,103 95
Contingent, Yards and Docks		20,000 00				11,217 23	8,762 77
Civil establishment, Yards and Docks		24,000 00				23,008 78	1 22
Closed navy-yards and stations.			\$50,000 00		\$50,000 00	49,809 39	100 61
Navy-yard, Brooklyn, N. Y.		100,000 00				52,618 00	47,382 00
Navy-yard, Washington, D. C.		15,000 00				9,584 00	5,416 00
Navy-yard, Mare Island, California		275,000 00				214,920 14	60,073 86
Repairs and preservation at navy-yards		200,000 00		\$50,000 00	150,000 00	142,843 82	7,156 18
Naval Asylum, Philadelphia, Pa.		59,813 00				46,954 92	12,858 08
Naval training station, Coasters' Harbor Island, Rhode Island.		45,000 00				38,749 44	6,250 56
Medical department, Medicine and Surgery.		40,000 00				24,103 81	15,896 19
Naval hospital fund		30,000 00				29,044 73	15 28
Contingent, Medicine and Surgery.		25,000 00				14,409 31	10,590 69
Repairs, Medicine and Surgery		15,000 00				14,446 48	553 52
Civil establishment, Medicine and Surgery.		20,000 00				19,807 00	192 40
Provisions, Navy		1,100,000 00				1,000,046 41	99,913 59
Contingent, Provisions and Clothing		40,000 00				30,439 38	9,560 62
Civil establishment, Provisions and Clothing		6,000 00				6,000 00	
Construction and Repair		1,334,000 00				1,285,973 31	48,026 69
Civil establishment, Construction and Repair		20,000 00				17,023 85	2,976 15
Steam machinery.		1,000,000 00				949,746 04	50,213 96
Contingent, Steam Engineering		1,000 00				505 75	494 25
Civil establishment, Steam Engineering.		10,000 00				9,032 00	968 00
Add this amount, difference in general account of advances (which is not an expenditure), being, June 30, 1884, \$1,407,272.87; and on June 30, 1883, \$818,668.31, difference						888,604 86	
		14,543,186 33				14,875,436 20	3,022,421 35
						59,818 00	
						14,815,623 20	

Deduct.

This sum to Naval Asylum, as that is included in appropriations, but was brought to the credit of asylum by requisition February 28, 1884, and is included in expenditures chargeable to Navy appropriations as refunded and deducted from amount drawn that month

REPORT OF THE ADMIRAL.

WASHINGTON, D. C., *November 12, 1884.*

SIR: There is a general impression throughout the country that a very large amount of money (over four hundred millions of dollars) has been spent on the Navy since the war, without anything to show for it. This impression has hindered the advance of the Navy; for, whenever an attempt has been made to provide appropriations for this branch of the service, misinformed persons have taken the opportunity to bring forward this stupendous amount to show that the Navy Department has been reckless in its expenditures. This idea has been taken up by repeaters and echoed far and wide over the country, so that now millions of people are convinced that the Navy Department has wasted this immense sum of money.

It must be remembered that after the war, and up to 1869, a large sum of money was drawn from the Treasury to pay war debts, as well as to provide for the maintenance of the Navy. It was not until 1869 that the Navy settled down to run on a reasonable annual appropriation for its maintenance. Up to that time bills were continually coming in for the construction of large iron-clads and heavy ships of war, of great speed, which had been built with the idea that we should be prepared for a meeting with foreign foes (we having been seriously in danger of it several times during the civil war). All the contractors for these vessels were not paid until the year 1869-'70, and it was not until after this date that the Navy was carried on with the ordinary appropriations.

The Navy can not be said to have been conducted on the footing of a peace establishment prior to 1869. This will appear by a reference to the appropriations from 1865 to 1869. During this time, bills to the amount of \$190,000,000 in round numbers had to be paid for work contracted for during the height of the war, when the Union was struggling for its existence against intestine foes and preparing to resist those foreigners who seemed disposed to meddle in our affairs. I see on looking over the accounts that \$10,000,000 was refunded into the Treasury, most of which was deposited after the year 1869, although appropriated previously.

Taking all things into consideration, including the fact that the war debt was not settled until this time, it seems to me that 1869 is the year with which criticisms should commence, if there has been anything in naval expenditure deserving criticism.

When it is considered that all the naval appropriations since 1869 were simply for the maintenance of the Navy (with the exception of \$5,000,000 for new cruisers), the amount expended will be found to be nothing more than reasonable. What ships we had at the end of the war were mostly wooden vessels, which every year required more repairs as their lives were coming to an end. Those of them which still exist may be placed in the same catalogue with decrepit old men tottering toward their graves.

Since 1869 the average annual expenditure has been about \$17,000,000, shown as follows:

Amount appropriated	\$258,704,067
For increase of the Navy	4,907,454
<hr/>	
For maintenance of the Navy	253,796,613

This sum divided by 15 gives about \$17,000,000 a year.

In this connection it must be explained to the uninitiated that the money for maintenance of the Navy is not for the building of new vessels, but for the pay of officers and men, and for repairs, supplies, &c.

Compare our expenditure with that of any other navy of importance, and it will be proved that we have kept within reasonable bounds; and yet half the people in the country are convinced that naval appropriations are recklessly expended; they being content to take the word of any one who makes a statement for the purpose of keeping back the Navy.

The following is a statement of the expenditures for our Navy since 1869:

1869.....	\$20,081,285 00	1879.....	\$13,343,317 79
1870.....	18,985,165 11	1880.....	12,916,639 45
1871.....	19,265,240 52	1881.....	14,450,789 86
1872.....	17,694,685 76	1882.....	13,936,294 96
1873.....	19,552,272 16	1883.....	13,918,833 78
1874 (including new cruis- ers)	26,254,155 82		252,704,067 82
1875.....	18,825,526 97	For new ships	4,907,454 00
1876.....	17,937,354 72		
1877.....	14,074,113 27	Total for mainten- ance of the Navy.	253,796,613 82
1878.....	17,468,392 65		

To the above amounts, which are the expenditures taken from the annual reports of the Secretaries of the Navy, there should be added the unpaid bills outstanding at the end of each year.

These bills do not appear in the reports of the Secretaries of the Navy from year to year, and although they amount to a large sum in the aggregate, they will not swell the expenditures to within seventy millions of the amount which it was asserted had been spent on the Navy since 1869.

List of vessels built since 1869, with cost of each.

Trenton	\$1,319,715
Adams	450,909
Essex	477,411
Enterprise.....	489,152
Alliance.....	572,452
Alert	326,016
Huron	323,954
Ranger	347,845
Intrepid.....	295,845
Alarm.....	304,155
	4,907,454

The accompanying tabulated form (marked A) will show the expenditures in foreign navies and our own, both for maintenance and the construction of new ships. This exhibit will prove much in favor of our naval establishment, and will go far to put a stop to the cry that wasteful extravagance has been shown in the administration of its financial affairs. It will also show the necessity of our doing something towards building a navy, if we wish to keep pace with the spirit of the age and hold ourselves ready to maintain the respect of foreign nations. No argument is needed to prove the necessity of a navy for this country. Any one who is supposed to be a statesman must be very obtuse if he ignores that necessity. The assertion that we want "a small but effective navy" does not cover our case. No *small* navy can be an efficient one, if we consider the needs of our country. It must be large enough to command the respect of the greatest naval power. It need not be as large as the naval forces of European states, but could be made effi-

cient and useful by our taking care to adopt no designs in ships or guns that are not superior to those of any navy afloat. Up to 1850, or thereabouts, our policy was to build better vessels than were built in any part of the world, and thus for some years we maintained a small but very effective navy.

All the powers of Europe have been engaged for the last twenty years in increasing their navies, while we have been indifferently looking on, not even taking the trouble to profit by their successes or failures in modern ship-building.

It cannot be denied that the European naval powers have during this time built some grand ships, the large majority of which are still very efficient vessels of war. A few of the largest of them have, however, been shown to be unequal to modern requirements, and their types are considered as out of date.

Within the last three years ships of war have been produced by the workshops of England which in my opinion take the lead both for cruising and fighting, and seem to me to furnish good models for our imitation.

I will only mention the *Esmeralda*, a ship of 3,000 tons, built in England for the Chilian navy. She is the most perfect ship of her class ever built (excepting her want of sail-power), and deserves to be carefully considered when making plans for new ships in our Navy. As far as I can judge, I think she will prove to be a more formidable vessel than either the *Boston* or *Atlanta*, and from the reports of her speed (18.28 knots over a measured distance of 11 knots, with all her coal and stores on board) she shows herself to be unsurpassed as a cruising commerce destroyer.

There is no reason why we cannot build a ship of 5,000 tons, on the lines and plans of the *Esmeralda*, that will give a speed of 19 knots an hour, which would quite equal the speed of any merchant ship afloat.

While we are building cruisers we must not forget our defenseless coasts—defenseless in ships, guns, and forts. In my last report I submitted plans of a class of gunboats which would prove very serviceable on our coasts. We have still to construct the proper vessel to ensure certain destruction to those who desire to enter our ports against our wishes.

The plans that I lay before you are for a vessel of about 950 tons displacement—210 feet between perpendiculars, 28 feet beam, and 11 feet draught of water. She will have 3,500 horse-power—two propellers and a revolving rudder, which will enable her to steer as well going astern as going ahead. She will carry 152 tons of coal, and will steam for fourteen days at the rate of 10 knots. Her full speed will be not less than 17 knots per hour. She will carry seven tons of stores, or six weeks' provisions—officers and crew, all told, sixty-five. Vertical armor on bows of 3-inch steel—curved shield decks fore and aft of 2½-inch steel—extending three feet below the water-line. She will have steam-pumps that will discharge five tons of water per minute, besides auxiliary pumps. Her battery will consist of one 10 inch breech-loading rifled gun to fire from a casemate protected by 3-inch steel armor, so arranged as to fire ahead, on broadside, or well on the quarter; two breech-loading 6-inch rifled guns aft, that will have all-round fire, and six Hotchkiss revolving cannon of 2¼ inches diameter. This is a heavier battery than is carried by any other vessel of this class.

The above is simply an outline of this proposed gunboat. When she is completed she will be a match for anything in our Navy, and will have speed enough to escape from a superior foe. When I first made an estimate for this vessel (unarmored and with engines of only 1,200

horse-power), I thought that the hull and engines might be built for about \$250,000, but the hull and engines as now proposed will cost at least \$350,000. I do not know what the battery will cost. That will be an extra matter.

I request that the above amount be asked for to insure a perfect vessel. It is not a large sum for so formidable a gunboat, ram, and torpedo vessel, in all of which qualities she will excel. To build this gunboat will take about the same time as was taken up in building the Dolphin. When finished she will be invulnerable against the ordinary rifled gun, when she is fighting bow on. She will run astern quite as fast as any ordinary cruiser will go ahead. This is the cheapest plan on which a powerful vessel can be built, and, in my mind, it is an important step to take towards the immediate and temporary protection of our defenseless coast.

Comparatively little has been done in this country towards building torpedo-boats. We have only one, the Alarm, and she is uncompleted. Although this vessel will make a very formidable gunboat when she is protected by steel armor (according to my original design), she is not fast enough to answer efficiently as a torpedo-boat. She should have a new engine which would insure her a speed of 14 knots. I recommend that she be completed and placed in condition for offensive warfare.

All other nations but our own are paying great attention to the building of torpedo-boats. France, Russia, and England have about a hundred each as coast defenders; and now England, in view of what is considered the insufficient number of her ships of war, proposes to make a special appropriation of \$60,000,000 for her navy, and also to build 250 more torpedo vessels for cruising and home defense. She will probably complete the whole number of them while we are considering the project of building three or four. Our case seems to be a desperate one, and we should extricate ourselves from this deplorable condition as soon as possible. It is well enough for some persons to say that we do not need a large Navy, but, in my opinion, if war should break out, these very people would be the first to cry out against the Government for not providing adequate defenses.

I submit what I think the Government ought to do in the next two years:

- (1) Complete the unfinished monitors and arm them with heavy rifled guns, making them rams as far as their models will admit.

- (2) Appropriate money for all the vessels that were proposed to Congress last winter.

- (3) Build as a commencement four of the heaviest monitors of great endurance and speed, each to carry four 16-inch rifles in turrets.

- (4) Build twenty torpedo-boats of not less than 100 tons each, with a speed of 20 knots.

- (5) One cruising iron-clad of not less than 4,000 tons.

- (6) Have all our ships of over 1,250 tons supplied with torpedo-boats, fitted with noiseless condensing engines, so that they cannot be heard when approaching an enemy. (The ships' launches which are now called torpedo-boats in our Navy are perfectly useless for this purpose.)

This would be a beginning in the right direction, and if continued for a few years we might hope once more to have a respectable Navy.

I beg leave to send you a report of what has been done by the Board of Inspection, and also to suggest that the recommendations of the board with regard to the monitors, now in the James River, be considered. They are evidently useless in their present condition, and are becoming

more so every day. They do not form an important part of our naval force, but might in time of war be turned to fair account as harbor defenders in conjunction with forts.

I have the honor to be, very respectfully, your obedient servant,
DAVID D. PORTER,
Admiral United States Navy.

HON. WILLIAM E. CHANDLER,
Secretary of the Navy.

NAVAL ACADEMY.

UNITED STATES NAVAL ACADEMY,
Annapolis, Md., June 7, 1884.

SIR: The Board for the visitation of the United States Naval Academy in 1884 has the honor of submitting this report:

The following gentlemen were members of the Board: Rear-Admiral R. W. Shufeldt, U. S. N.; Hon. Robert C. Schenck, Washington, D. C.; Hon. George H. Pendleton, United States Senate; Hon. Angus Cameron, United States Senate; Hon. S. S. Cox, House of Representatives; Hon. Nathan Goff, jr., House of Representatives; Hon. John H. Evins, House of Representatives; Hon. Dorman B. Eaton, New York, N. Y.; Hon. Stephen M. Allen, Boston, Mass.; Prof. Edward S. Joyues, Columbia, S. C.; Mr. Erwin S. Jewett, Kansas; Mr. William H. Upham, Wisconsin.

Several of them met at Annapolis on the 30th of May, but, no quorum being present, an organization was not made until the next day, when the Board was organized by the election of officers and committees as follows:

President, Rear-Admiral R. W. Shufeldt.

Vice-President, Hon. Robert C. Schenck.

STANDING COMMITTEES.

1. *Conditions of admission and dismissal at the Academy.*—Hon. Dorman B. Eaton, Senator George H. Pendleton, Hon. R. C. Schenck, Prof. E. S. Joyues, Mr. E. S. Jewett.

2. *Subjects of study and standard of scholarship.*—Prof. E. S. Joyues, Hon. J. H. Evins, Hon. N. Goff, jr., Senator A. Cameron.

3. *Grounds, buildings, and sanitary condition.*—Hon. S. M. Allen, Mr. E. S. Jewett, Mr. W. H. Upham.

4. *Seamanship, ordnance, and navigation.*—Rear-Admiral R. W. Shufeldt, Hon. S. S. Cox, Hon. N. Goff, jr.

5. *Discipline, drill, practical exercise, administration, and police.*—Hon. R. C. Schenck, Senator George H. Pendleton, Mr. W. H. Upham.

6. *Steam, mathematics, physics, and mechanics.*—Mr. W. H. Upham, Hon. S. M. Allen, Mr. E. S. Jewett.

7. *English Studies, modern languages, and drawing.*—Senator A. Cameron, Prof. E. S. Joyues, Hon. J. H. Evins.

8. *Finance and library.*—Hon. N. Goff, jr., Mr. E. S. Jewett.

9. *Final report and selection of orator to address the cadets on Friday, June 6.*—Senator George H. Pendleton, Hon. Dorman B. Eaton, Rear-Admiral R. W. Shufeldt.

The committees, after having during several days made careful observation and inquiries concerning the matters respectively assigned to them, separately reported in writing to the Board; and the Board, after considering these papers, gave general directions for the preparation of its report by the committee last named.

I.—CONDITIONS OF ADMISSION AND DISMISSAL.

1. There is an antecedent difficulty which complicates all inquiries relative to the true conditions of admission to the Academy. It springs from the uncertainty, in a legal sense, as to the position of the cadet himself. By admission to the Academy is the cadet admitted to the Navy? Does he become subject to the Navy Regulations, and is he made liable to courts-martial?

The Board was surprised to find doubts among those well informed on these points, and a practice apparently based upon a construction given to the law which seems to answer those questions in the negative. The Board does not feel called upon to express any opinion as to whether that construction of the law could be maintained in the civil courts.

The Naval Academy had its origin, not in any law of Congress, but in the patriotic action of several Secretaries of the Navy, and mainly in that of Mr. Bancroft, aided by various naval officers who were anxious to improve the education of the officers of the Navy. The direct object of the Academy was to educate midshipmen then being inadequately instructed at various places.

These midshipmen were a part of the Navy (Rev. Stat., section 1362). The Academy was at length recognized by statute, and its students were styled cadet-midshipmen (Rev. Stat., sections 1511 and 1513), and cadet engineers were provided for. The patronage of the selection of cadet-midshipmen was in 1862 divided among the Members and Delegates of the House of Representatives, except that the President was to fill eleven cadetships. Subsequently the act of August 5, 1882, put an end to the appointment of cadet-midshipmen and cadet-engineers, and provided for the appointment of *naval cadets*, without defining their relation to the Navy, to the Navy Regulations, or to naval courts-martial. These naval cadets are the students at the Naval Academy, the conditions of whose admission thereto are to be considered. Their legal status is certainly anomalous, and the laws relating to them do not bear evidence of careful consideration.

On entering the Academy these cadets take an oath which contains this language:

I, * * * having been appointed a naval cadet, do hereby engage that I will serve in the Navy of the United States eight years, unless sooner discharged; * * * and I do solemnly swear * * * that I will obey the legal orders of my superior officers and the rules and articles governing the Navy of the United States.

Four of these eight years are to be passed at the Academy, the next two years on a cruise which follows graduation, and the last two in sea service as officers in the ordinary course of such service, under the title of Ensign.

The Board has not learned that there is any formal entrance to the Navy, unless it be the taking of this oath and the entering of the Academy. Yet it does not appear that a naval cadet, while at the Academy, is regarded as a part of the Navy. He has taken an oath to support the articles governing and to serve in the Navy; nevertheless he is not regarded as in it, or as entitled to or as subject to the courts-martial for which these articles provide, and which are understood to apply to him on the cruise. On the contrary, Congress thought it needful to enact a special provision, in June, 1874, for making the offense of "hazing" subject to courts-martial. The Board thinks that, by reason of certain of its provisions, this statute should remain, even if it be held that the court-martial system has all the time embraced naval

cadets as being actually a part of the Navy. They are regarded as in the Navy, and for that reason are subjected to courts-martial, while on the last two years' cruise.

The Board also thinks that both legal analogies and the interests of justice and discipline at the Academy require that these naval cadets, like the former midshipmen whom they have succeeded, should while there be regarded as a part of the Navy, and be subject to courts-martial in a form best adapted to the circumstances of the school, and this is the view of the most experienced naval officers whom the Board has been able to consult. Such tribunals could compel the disclosure of facts in cases where their concealment causes distrust and screens the guilty.

It is worthy of notice here that the cadets in the Military Academy at West Point are by law declared to be a part of the Army, and as a consequence are subject to courts-martial, which the Superintendent is authorized to convene. (Rev. Stat., sections 1094, 1317, 1325, and 1326.) There appears to be no reason but the neglect of Congress why provisions which have been found so beneficial at one Academy have not been extended to the other, where they are as appropriate and as much needed. Such a rule has been applied to cadet-engineers at the Naval Academy. (Rev. Stat., section 1525.)

2. The Board ascertained that by the existing system, under which nearly all the patronage of cadet selection for Annapolis is enjoyed by members of Congress, those cadets who have been sent away for fraud and other moral delinquencies are sometimes returned and are again admitted to the Academy, there being no legal authority for preventing it. There is now at the Academy, as the Board has reason to believe, a cadet, sent back there by a member of Congress, who was once discharged for fraud at the examinations. This is an abuse the effects of which cannot fail to be highly injurious.

The law provides that in case any candidate fails to show the proper mental and physical qualifications upon the examinations, he shall not be examined again for that class, and that in case, upon any examination during the course of studies, any cadet is found deficient, he shall not be allowed to remain at the Academy "without the recommendation of the Academic Board." But it does not appear that the Academic Board or the Superintendent has any power to keep out an applicant or to do anything effective for terminating his stay at the Academy, or even for bringing him to trial, however clear the proof of bad conduct, and though that bad conduct be of the grossest character, unless it be hazing. Courts-martial would remedy a part of this evil. But the Board thinks that no person whose connection with the Academy has been severed in consequence of misconduct should be again admitted to it except with the approval of the Academic Board.

The law applicable to the Military Academy contains a provision which is nearly the equivalent of this recommendation. No cadet there reported deficient in either *conduct* or studies, and recommended for discharge, can be returned or reappointed, unless upon the recommendation of the Academic Board, before his class shall have left the Academy. (Rev. Stat., section 1325.)

The Board of Visitors can see no other reasons than the greater difficulties under which the Naval Academy has struggled, and the failure of Congress to provide adequate laws for its protection, why its Academic Board has not secured as ample authority as the Academic Board at the Military Academy for protecting itself from the presence and vicious example of those whose conduct is under condemnation.

3. The Board of Visitors thinks it would be a great improvement to have the selections for the Academy made a year before the time of intended admission, and that the candidates should be examined so seasonably as to be ready to enter the Academy on the 1st of June, or, at latest, during the first ten days of the month.

We have seen that, with the exception of the ten cadetships at large and the one for the District of Columbia, all the places in the Academy are filled by the nominees of Members and Delegates in Congress—one from each Territory and each Congressional district. The statute further provides that the Secretary of the Navy is to fill the places which Members and Delegates do not take the trouble to fill in season. Taking the statute and the legal opinions as to its construction together, it seems to be contemplated that the Members and Delegates should fill their cadetships between March 5 and July 1, and that on their failure to do so the Secretary should have the time from July 1 to September 22 to fill those left empty after July 1. The great disparity between the numbers at the school and the numbers entitled to be there, shown in the figures below, give emphasis to the manifest defects of such a system.

The duty of making such selections being wholly foreign to the functions of a legislator, it is very natural for him to forget or neglect to do it seasonably. During the period for his selection the Congressman is engaged in exacting duties at Washington. In many cases conflicting importunities for the place make a choice very disagreeable.

The Secretary cannot know that there will be a vacancy for him to fill until after July 1, when he may be away on his vacation. Some of those selected decline, and not a few of them, as the tables show, fail to pass the examinations for admission.

If the selections were to be made a year beforehand, there would be time to remedy neglects and fill the places of those who decline or are rejected. Besides, young men, knowing they were to go to the Academy, would give attention to the appropriate studies and enter it better qualified. This would do something toward relieving the pressure of studies upon the time of cadets, which this report will notice.

The law applicable to the Military Academy, apparently recognizing these reasons, requires the appointment of its cadets to be made a year beforehand. (Rev. Stat., section 1317.)

But there are other reasons, which do not apply to that Academy, why the same provision should be extended to the Naval Academy. Instruction for command at sea should be not only scientific but in a large measure practiced in the handling of ships and in all the exigencies of sea-life. Some persons are by nature unable to endure that life. Without experiment the young man from the country cannot know that he is not thus incapacitated. Without going upon the water and getting a view of the vastness of the ocean, having a part in the working of ships and the preparations for fogs, icebergs, and storms, such cadets would enter upon their studies with a feeble conception of the practical value of much which they are called upon to learn.

To meet such needs a cruise at sea is provided for the new cadets, which begins early in June and continues until about the end of August. On this cruise many of the cadets of the older classes are joined with the new-comers, and all work the ship together. Besides the valuable information gained, friendships and associations are formed on these preliminary cruises which greatly influence the whole life of the cadet at the Academy. Perhaps no two months of the whole course of the cadet leaves deeper marks upon him or are of greater value to him. If

he cannot stand sea-life, he leaves the Academy on his return. It hardly need be said, therefore, that those who enter the Academy after this cruise is over begin the course of studies under a serious disadvantage, not merely in point of information, but in forming friendships and relations with members of their own class and other classes. And, beyond this, their lack of what others have learned tends to delay the studies of the course and the advance of the class.

4. In view of such considerations, the Board was sorry to find that year by year, with few exceptions, much the larger proportion of the cadets do not enter the Academy until September or October, when the cruise is over, though such results may be no matter of surprise under the present method of selecting cadets.

In 1883, 94 came for admission in June and 117 in September; in 1882, 44 came in June and 71 in September; in 1879, 2 came in June and 54 in September; in 1876, 85 came in June and 103 in September. The evil is not of recent origin. In 1870, 51 came in June and 102 in September; in 1874, 74 came in June and 106 in September.

In the case of rejections on the September examinations, the vacancies must remain unfilled or the admission of the cadets must be much later. And how numerous these rejections are by reason of physical and mental incompetency may be inferred from these facts: Of the 117 who came in September, 1883, only 61 were found qualified; of the 71 who came in September, 1882, only 39 were found qualified; of the 54 who came in September, 1879, only 35 were found qualified; of the 103 who came in September, 1876, only 48 were found qualified.

These rejections, in the opinion of the Board, are in no degree to be attributed to a standard of admission which is too high. A considerable part of the rejections are due to physical incompetency. In June, 1881, 7 out of 16 rejections, and in June, 1882, 16 out of 21 rejections were for physical incompetency alone.

The literary standard is of the most elementary character, not going beyond the ordinary teaching of the common schools of the country, and the public interest will not allow it to be in any degree lowered.

5. It naturally occurred to members of the Board to consider whether the present system of selections for the Academy is responsible for so many incompetent persons being sent for examination, and whether the examinations cannot be brought nearer the homes of the people, so as to save applicants sure to be rejected the time and expense required for traveling long distances to the Academy in order to be examined.

These points calling for facts not at hand, and requiring additional sessions which the Board was not able to hold, it was arranged that they might be treated in a special report, by such members as might be able to consider them.

II.—SUBJECTS OF STUDY AND STANDARD OF SCHOLARSHIP.

Studies of regular course.—The subjects of study and the hours assigned to each, &c. are found tabulated on page 62 of the Naval Academy Register for 1883-'84, and are more fully explained on the preceding pages. It is difficult to see how the studies proper to such an institution could be better selected, better arranged, or more compactly comprehended within the limit of time possible in the present course of four years.

The studies of the two first years are mainly fundamental; those of the two last years are mainly technical and applied, or professional. It is to be regretted that a larger time cannot be allowed to the more

important subjects of general training; but at present this could not be done without the sacrifice of those technical studies which are essential to the naval profession. The only solution of the difficulty would be either to raise the standard of admission or else to extend the time of general or preparatory study. The first, if it were desirable, is probably impracticable in the present condition of education in this country. The second alternative suggests the question whether, the standards of admission remaining substantially the same as now, it would be practicable to add another year for general study; that is, to make the Naval Academy course *five* instead of *four years*. The Board thinks that such an arrangement, if practicable, would obviate many of the difficulties now attendant upon insufficient preparation, and would give opportunity for more thorough general training, as well as for an easier and more flexible arrangement of time and of subjects throughout the entire course. This question is too difficult to be dealt with in its details by the Board, but we deem it of sufficient importance to demand attention. The Board therefore suggests that the Secretary of the Navy require a report to be made by the Superintendent to the next meeting of the Board of Visitors, setting forth what advantages and disadvantages, if any, would accrue from the extension of the Naval Academy course from four to five years, what changes would thereby be made necessary or practicable in organization, in instructors, or in the course of study, and what would be the additional expense to the Government; and giving an outline of the course as so modified in all departments, and adding any further suggestions deemed proper for consideration.

Special, advanced, and post-graduate studies.—The Board would emphasize the importance of greater opportunity for the development of special, advanced, or elective studies in the later years of the course. The prescribed subjects give a full average of work for the average student. Yet there are other cadets who, by superior industry or capacity, can command time for special work, whether in the line of their special talents or in subjects necessarily excluded from the regular course, or allowed only limited time therein. As, for example, in the higher departments of applied mathematics, physics, &c., on the one hand, or in the German language, which has become almost the vernacular of advanced science, on the other. Herein might be laid the foundation of the highest attainments in scholarship, or of special distinction in technical and professional science in lines directly relating to naval services. The enlargement of the course would give room for special work in these various directions, such as is now possible only in exceptional cases, from want of time and opportunity on the part of both students and instructors. It should be added that the Superintendent and heads of departments now offer every possible encouragement for special studies of this kind, and that, so far as known, they concur in the view that larger opportunity should, if possible, be secured in this direction. The establishment of such special courses would lead, by natural growth, to the gradual development of post-graduate courses, for the pursuit on the part of chosen graduates of the highest departments of science appropriate to the naval service. This Academy should be content with nothing less than the highest results within its own sphere of training. There should be no advantages offered anywhere which this school should not aspire to furnish to its own graduates. Such development can only be the work of time, but the beginning should be made as soon as possible. The first step thereto would be the relief of the crowded condition of the regular course, thus giving scope for such under-graduate special studies as

may be hereafter expanded into established advanced or post-graduate courses.

The force of this remark applies equally to instructors and students. A careful investigation has satisfied the Board that the instructors in this Academy are doing now the utmost amount of teaching that is compatible with personal efficiency.

The admirable system of teaching classes in small sections—never exceeding twelve and generally averaging from six to eight—so advantageous to students, imposes a heavy burden upon instructors, the weight and the value of which can hardly be appreciated without reflection. Such enlargement of the course, even without increasing the number of instructors, would render possible a more flexible distribution of labor, and therewith increased efficiency of instruction within the regular course, in addition to the needed opportunity for special or advanced instruction in the several departments. In aid of such results the Board suggests that the Secretary of the Navy call upon the Superintendent to report such recommendations as he may deem proper for the further development of special or elective advanced courses in the later years of the regular course, looking also to the development of post-graduate courses hereafter for special study at this institution of the highest departments of naval science.

Standard of scholarship.—On this subject the Board has made special investigation, with free access to the records of the Academy and to other various sources of information. In the judgment of the Board, no change is desirable in the present standard of scholarship, whether for admission or for subsequent graduation.

A numerical standard is purely nominal, and at best only approximate. The chief practical question is as to its administration and application. A careful inspection has satisfied the Board that the standards of this school are interpreted and applied with the utmost intelligence and liberality. Nothing more is required than is fairly necessary to the efficiency of the public service. Every reasonable indulgence is allowed, every proper opportunity is offered to make good deficiencies within reasonable limits, and every possible encouragement is offered to the cadet from the beginning to the end of the course.

The records are kept with the utmost fullness, precision, and impartiality, and the standard of scholarship, as well as of merit and demerit in conduct grades, are applied with discretion and leniency. Every student gets the fullest credit for attainment and for conduct, and it is difficult to see what better system could be devised, or how any system could be better administered.

The standard of scholarship for entrance and for graduation as now established and administered at the Naval Academy is deserving of the commendation of the Board of Visitors.

III.—BUILDINGS, GROUNDS, AND SANITARY CONDITION.

The buildings were all examined, and the Board takes pleasure in stating that it finds that everything practicable has been done during the year to render the premises healthy and comfortable. The condition of the buildings was clean and orderly. Trees have been planted, the grounds have been graded and turfed, and roads and pavements have been made, and they have a very attractive appearance.

The sanitary conditions and general character and requirements have been considered. Particular reference is made to the reports of the Boards of Examiners for the years of 1882 and 1883 for a more perfect

knowledge of the real condition of what then existed and what has since been done on the grounds of the Academy.

The Board thinks it important that all the grounds now owned by the Government, as appurtenant to the Naval Academy, including the site of the hospital and cemetery, should be kept intact, and that no part of them should ever be sold, but that some additions should be made by purchase or condemnation. There should be new and additional quarters provided for the cadets. Quarters should be provided within the grounds for officers now living on the outside.

Grounds.—One of the most beautiful and practically useful parts of the Academy grounds, and now the most healthy, has been reclaimed from the shore of the river, having been filled by débris taken from the higher lands of the Academy.

There is a small tongue of land owned by private individuals which divides the grounds of the Academy on the shore. It has become an unsightly nuisance. This insignificant piece of land is in the way of all general improvement in a connected and practical plan of reform which should be established for future sanitary purposes. This piece of private property is taxed for about \$11,000, and should be at once purchased or taken possession of for the use of the Academy.

Hospital farm.—A Government hospital farm, which also includes the cemetery, connected by a bridge across the branch of the Severn with the Academy grounds, will soon be considered an indispensable breathing ground of this institution, for which it is pre-eminently fitted, as well as for other practical uses. These grounds should by all means be retained by the Government. The hospital buildings now upon the premises, but not in present use, if ever removed, should be carefully taken down and the material used for additional buildings for the Academy.

Quarters.—The quarters for cadets at present seem totally inadequate, and are so unfortunately situated as to render a proper plan of general improvement in the future very difficult of execution. The Board therefore recommends a new building for such quarters, in a more healthy spot, adequate in size for future needs. Accommodations for four hundred cadets will be necessary.

The Board recommends that a new *kitchen* and mess-room be erected, entirely disconnected from other buildings. There should be fire-escapes attached to the present quarters of the cadets.

Considerable injustice and inconvenience arise from insufficient accommodations in the officers' quarters. Part of them are in the grounds of the Academy and part outside. This deficiency not only does pecuniary injustice to some of the officers, but is exceedingly inconvenient and injurious to proper discipline. In case new quarters should be made for cadets, the building now occupied by them could be remodeled for additional quarters for officers.

Superintendent's house.—The unnecessary delay for the past two years in finishing the house of the Superintendent has worked great inconvenience; and as the means have already been appropriated for finishing the building, the Board recommends that orders be at once given for its proper completion.

Sanitary condition.—The officers of the Academy have given great attention to sanitary affairs, and are remedying all difficulties as fast as possible. Considering the age of the buildings and their old-fashioned appliances, which were never of the first class, the sanitary condition of the Academy is remarkably good. There is little to complain of not chargeable to the carelessness of the students themselves, through whose neglect offensive conditions are sometimes developed

from which they suffer. It is proper to state that the professors are well informed as to all modern methods of sanitary reform, and are trying vigilantly to carry them out. A perfect sanitary condition, however, cannot be obtained until grounds, buildings, and uses can be practically united in a perfect general system.

IV.—SEAMANSHIP, ORDNANCE, AND NAVIGATION.

It has been gratifying to observe that the present Superintendent has given a merited prominence to these important branches of the naval profession. The cadets are taught to become practical oarsmen, and an exhibition of their skill was quite creditable. It is not many years since naval officers, as a body, were unskilled in this simple but very important accomplishment.

Steam tactics were also well displayed by means of a miniature fleet, consisting of steam-launches, managed entirely by the cadets, and controlled by signals from the flag launch. The Superintendent informs the Board that by utilizing old sailing launches and unused engines from different navy-yards, he has not only created the present fleet, consisting of eight boats, but hopes to increase this number to twelve, the number actually required for a complete study of fleet fighting under steam.

The method of signaling by hands with flags was also exhibited, by transmitting a message through several stations back to its starting point, without error or delay.

The steamship Wyoming was got under way by the cadets, who performed all the incidental work—steering, sounding, and managing the ship, and, while under way, making, reefing, and furling sails, and sending up and down topgallant and royal yards, all with commendable alacrity and knowledge. The ship was placed under steam alone, with the cadets performing the functions of firemen, machinists, and engineers, and the various duties assigned were well performed.

It must not be understood, however, that, from this cursory exhibition of knowledge on the part of the cadets in these two very distinct branches of the profession, the Board is disposed to approve entirely of the present method of giving to the line officer and the engineer precisely the same course of studies. The results of this system are as yet unknown, with some doubts as to its success; but in the mean while the Board would suggest that the cadets, who, at the end of the academic course are selected for the engineer corps, might by some arrangement be sent to workshops and foundries rather than to sea where they would obtain but little mechanical knowledge of their profession.

The Wyoming is thus employed on the Saturday of every week, and the cadets are taught on board of her, alternately, seamanship and gunnery. The exhibition of target-firing was particularly good. During all of the exercises the Board was impressed with the seamanlike bearing of the cadets and the prompt obedience to orders.

The Board desires to say that in the department of seamanship and ship-building there are needed working models of iron or steel steamships. It ventures to hope they will be supplied in place of those now only applicable to the construction of obsolete wooden vessels.

V.—DISCIPLINE, DRILL, POLICE, &C.

The discipline of the Academy seems all that could be desired, and the many social privileges gained by the good conduct of the cadets is the best proof of the discipline maintained. The most remarkable illustra-

tion is the average of demerit for 1882 and 1883, as exhibited against the average to each cadet during the year just passed. The fall in demerit was as follows:

The first class, from 50 demerit to 3; the second class, from 71 demerit to 38; the third class, from 94 demerit to 58, and the fourth class, from 99 demerit to 48, an improvement without a parallel in the history of the Academy.

The Board highly commends the course of discipline adopted by the Superintendent in producing such results. The last four years the average number of demerit marks has been reduced 50 per cent. against the average number to each cadet for the preceding ten years. The Board is satisfied that the cadets receive severe discipline in case of any infraction of the regulations, whilst accorded liberal privileges in case of good conduct.

The drills, both infantry and artillery, are well maintained, and the cadets are proficient in the maneuvers of both company and battalion.

VI.—STEAM, MATHEMATICS, PHYSICS, MECHANICS.

These subjects have been considered, and the Board approves of the system as taught. The use of steam and its practical application as expounded and illustrated at the Academy cannot fail of giving a thorough mastery of the subjects. It is a great advantage that all are taught practically, whether they enter the engineer's branch of the service or not.

VII.—ENGLISH STUDIES, MODERN LANGUAGES, AND DRAWING.

English studies.—The course of English studies embraces English language; composition and rhetoric; history, general and American, including especially naval history; civil and maritime geography; the Constitution of the United States, and international law.

It is the opinion of the Board that the studies, in view of the objects of the course and of the necessary limit of time, are wisely selected and well arranged, and that they are ably and efficiently taught. The examination questions and answers, which have been freely submitted to the Board, show conclusively that the work in this department is faithfully and ably performed, and with most satisfactory results.

Modern languages.—The studies of this department embrace the French language, and, as an elective study, the Spanish language.

A committee of the Board attended the oral examinations in French, and read the examination papers in both French and Spanish. It pronounces the results of the instruction extraordinary in comparison with the amount of time allowed. This result is largely due to the great advantages of teaching classes in small sections, but also, doubtless, to able and careful teaching on the part of the instructors. It is not too much to say that the progress of the cadets in this department will bear favorable comparison with the best colleges of the country, in proportion to the time allowed to these subjects.

The only drawback to the fullness and efficiency of the instruction in these departments (English and modern languages) is the want of more ample time, both for the studies of the regular course and for such special or advanced studies as might be taken, in the form of *electives*, by students of the higher classes, or as post-graduate studies. It is clear, however—and this view is assented to by the heads of these departments—that no longer time can now be claimed within the limits of the

four years' course. The consideration of an increase of time for these studies, therefore, can profitably arise only in connection with the general question of the enlargement of the course of study.

Drawing.—It appears that the instruction in drawing is conducted on the most approved methods and with ample appliances. This subject is one of great importance, both for its own sake and its application in other branches of science. Great progress has been made in this department in recent years, and the result of its work, so far as the Board is able to judge, is most satisfactory.

VIII.—FINANCE AND LIBRARY.

The Board commends the economical administration of the financial affairs of the Academy, and approves of the excellent system of keeping the finance accounts as adopted by the Superintendent and his able assistants, and also the present system of purchasing supplies by advertisement and inviting bids, whereby a large annual saving is made. The library is in good condition. The increase for the past year has been 700 volumes. The Board recommends that the usual amount yearly devoted to the purchase of new books be continued for that purpose. Every effort should be made to keep the library supplied with the latest and most approved scientific and professional works.

It is but just to add that the members of the Board were promptly furnished every facility they desired for getting at the facts upon all the subjects of their investigation.

The Board thinks that these annual investigations would be made more efficient and useful if some of the members of each Board should serve more than one year. No inconsiderable portion of the short time within which every investigation must be conducted is required to gain that general information concerning the organization of the Academy, the buildings, the courses of study, and the official routine, in reference to which all investigations must be pursued. A few members holding over from a previous year could greatly facilitate the work of a new Board.

This Board, therefore, recommends such a change in the law and practice, in this regard, as will cause the visitors appointed by the President to be classified in such manner as to bring about a holding of their positions for two or three years in succession.

And we are, very respectfully,

R. W. SHUFELDT.
ROBT C. SCHENCK.
GEO. H. PENDLETON.
ANGUS CAMERON.
DORMAN B. EATON.
EDWARD S. JOYNES.
NATHAN GOFF, JR.
S. S. COX.
STEPHEN M. ALLEN.
E. S. JEWETT.
W. H. UPHAM.

Hon. W. E. CHANDLER,
Secretary of the Navy.

**SPECIAL REPORT UPON THE CONDITIONS OF ADMISSION TO THE
UNITED STATES NAVAL ACADEMY.**

WASHINGTON, *June 20, 1884.*

SIR: The Report of the Board of Visitors, just made to you, shows that it was unable, for reasons therein set forth, to consider the relation which the present method of filling cadetships sustains to the many incompetent persons sent for examination at Annapolis and the numerous cadetships generally vacant, or the question of the need and practicability of bringing the examinations for entering the Academy nearer to the homes of those who wish to enter it.

These subjects were left for a special report, and such a report I now submit.

In that part of the report of the Board which relates to *admissions and dismissals*, important facts are stated which need to be borne in mind in considering the points herein discussed, and, to save repetition, I refer to those facts.

That part of the report shows—

1. That more than half the cadets do not enter the Academy until September, though the public interests and their own progress and advantage while there would be much promoted by entering the Academy as early as the 1st of June.

2. That the standard of admission is not beyond the elementary teaching of the ordinary public schools, that it cannot be lowered without detriment to the public interests, and that a higher standard of education attained before entrance to the Academy would facilitate provisions for a wider and higher instruction which is much to be desired.

3. That all the examinations for admission, which are both physical and mental, now take place at Annapolis, where the applicant, however poor and however remote his residence, must go in order to have the facts of his competency for a cadetship determined. His selection by a member of Congress for examination is regarded as proving nothing on those points, and the examination is decisive.

4. That under the existing system an appointment of a cadet for the District of Columbia and ten at large have been made by the President, with no condition as to the residence and none other as to date. But on June 17, 1878, it was enacted that there should be at the Academy only ten cadets appointed at large.

All the other cadetships are apportioned as so much patronage to Members and Delegates in the House of Representatives, each Delegate being allowed one for his Territory and each Member one for his district; and in case any Member or Delegate does not fill his cadetship between March 5 and July 1 of any year, the Secretary of the Navy has from July 1 to September 22 in which he may fill it from any part of the country.

It would seem that apportionment to districts is, therefore, rather for the convenience of members of Congress than on any ground of utility. Some of the reasons why such provisions tend to prevent the filling of so many vacancies until September, and the evil effects of this delay, are stated in the Report of the Board.

If the changes which that report recommends shall be made, a considerable part of those evils would be remedied; but such changes would not bring the examinations any nearer to the homes of applicants. They would not prevent so many incompetent applicants traveling long distances and incurring large expenses, which they must bear, before they know they cannot be admitted. To some extent such changes might help the selection of more capable applicants, but

they would by no means provide the best practical method for that end. They would not remove the inherent defects or the vicious influences of the present system for the selection of cadets.

Before deciding whether there is any serious need of arresting such evils, it will be well to consider some facts.

1. NUMBERS DUE TO THE ACADEMY COMPARED WITH THE NUMBERS WHO ATTEND IT.

There are 325 Members and 8 Delegates in the House of Representatives. One cadet for each and 1 for the District of Columbia, with the 10 appointed at large, gives 344 cadets. But as the President, up to 1878, appointed 10 at large annually, and the course of studies at the Academy is 6 years, the full number who might have been under instruction at the same time was 394.

Now, the number of cadets actually at the Academy has been much less. For example, take the years 1871 to 1874, inclusive, and the average number at the Academy was 243; and coming down 10 years later and taking the years 1881 to 1884, inclusive, the average attendance was also only 243. In 1871 only 200 were present, and the largest number in either of the 8 years was 290. The number of vacancies therefore varies between 104 and 194, the average number of vacancies for the whole 8 years being 150; or, in other words, more than one-third of the places which the law contemplates will be filled are left vacant under the present method of selecting cadets. These numerous vacancies, it hardly need be said, mean, the object of the law and the Academy in large measure defeated, ample outfit and expenditures for full classes not utilized, many, perhaps poor young men, deprived of the opportunity of an excellent education, the Government curtailed of its needed chances of securing the best officers possible for its naval service, empty seats and rooms, and meager classes at an Academy liberally supported by a great nation.

A few examples will show how meager some of the classes are. For example, the fourth or entering class in 1871 had but 82 cadets; in 1875 it had but 97; in 1881 it had but 73; in 1882 it had but 47; and in 1883 it had but 85. And only in a single one of those years did the whole number at the Academy exceed 257.

The first or highest class in 1881, 1882, and 1883, respectively, had only 60, 54, and 46 cadets; in 1871, 1872, and 1873, respectively, that class had only 44, 34, and 27 cadets. The average number in the graduating classes for the last thirteen years has been under 55. These numbers are more appropriate for a county high school, or a small private college, than for a national institution, among the graduates of which this great republic expects to find its officers for the management of its naval affairs and the command of its ships and fleets.

If it be said that even from so small classes more graduate than can be made officers in the Navy, and that, consequently, no more cadets are needed, the answer is easy.

The weakness and littleness of our Navy are far from suggesting an excess of officers fearless and able for special sacrifice and effort for its up-building. And I trust there are few well-informed and patriotic citizens who do not feel the need that our Navy, both for commerce and for war, should be—and the resolve that in the near future it shall be—made worthy of our country and adequate for its defense; conditions hardly to be reached and certainly not likely to be long maintained without many able and highly educated naval officers.

But beyond this the very object of such an academy and the essential conditions of attaining that object are lost sight of when the classes are so small that the number of graduates very little exceeds the number of naval officers—our future commanders, captains, commodores, and admirals—who must be selected each year from among them.

It is not every cadet who can pass the minimum of graduation who is fit to command a ship, or even to be an ensign upon it. Ability to command is rare. A great and rich people can afford to educate many of its youth for the advantage of a choice of the best of them for naval officers. The lack of the highest order of ability and skill in the commander of a fleet, or of a single vessel during one day even, may involve national dishonor and a pecuniary loss greater than the whole cost of the Naval Academy for a decade.

If the graduating class should contain 150 or 200 as it might, instead of only 27, as we have seen to be sometimes the fact under the existing system, the chances of finding in it 20 or 25 highly competent for officers would be much greater.

It is an incidental effect of every method for selecting the best from many for especial service, where rare qualities are essential and invaluable, whether in selecting a grand jury, the president of a college, or the general of an army—that many must be rejected.

But, in enforcing those tests of attainments, conduct and endurance at the Naval School, which bring the most capable and worthy to the front, it fortunately happens that those cadets who are not foremost—many of them from humble homes—are given an education equally useful to themselves and the country. They may in part supply the great and growing need of more thorough and scientific education for the improvement of our maritime affairs. With reference to these latter considerations alone we cannot afford to have a single needless vacancy at our only Naval Academy.

2. THE NUMBER OF CADETS ALLOWED TOO LIMITED.

But the present system for the admission of naval cadets is not unsatisfactory merely because it allows or compels so many vacancies, but also because it fixes too small a maximum number of cadets at the Academy.

It would not be easy perhaps to decide with exactness upon the most advantageous number for such an institution. The reasons have already appeared why the numbers should be as large as is compatible with good discipline and effective teaching. I have the highest authority for stating that portions of the present outfit are not utilized, and that only an additional number of sleeping-rooms and of teachers are needed to enable the number of cadets to be largely increased. The expense of such an increase would be as nothing compared with the advantages of larger classes. These reasons make it plain that the present system causes the education of each cadet to cost the Government much more than it need cost.

The present numbers at the Academy are hardly a fourth part as great as are found at our most successful and distinguished institutions of learning, to say nothing of those of Europe. I have been able to find no intrinsic objection to having as many as 500 or 600 at the Academy. Such numbers would have the incidental effect of adding largely to the vital and sympathetic connections of the Academy with the people, and would increase its prestige and dignity in their eyes, as well as in the estimation of the cadets themselves. With even a more exacting course of study classes of not less than 100 would then graduate.

I am unable to find any reason for thinking that the present maximum limit of cadets was fixed either upon any adequate consideration of the importance of the Government having a very large number of graduates from whom to select the best for officers, or upon any definite theory as to how many could be most economically or thoroughly instructed at the Academy.

For the convenient and equal distribution of the patronage, or perquisites of selecting cadets among Members and Delegates in the House of Representatives, it is plain that to give one or two or three or more to each Delegate was natural, if not necessary. That necessity of the system perhaps dictated the maximum number allowed. But it is too plain for argument that there is not the remotest natural relation between the fit number of members in a legislative body and the fit number of cadets in a naval academy.

On the other hand, nothing is more fit than to disregard and forget everything like patronage, perquisites, and favoritism in determining the number, character, and qualifications of the young men who are alone examined for such national schools as those at Annapolis and West Point. The selection for admission there predetermine and circumscribe those who are, in the most responsible places, in future years to command on land and sea, and to whom therefore the honor and safety of the nation must be most directly committed in times of peril. The very instincts of self-preservation declare the right and the duty of the Government to first bring into these schools as many as practicable of the most promising for such high trusts among all the young men who wish to enter them, and next to select for officers from among the whole number educated there those who, tried by the highest standards, shall have proved themselves the most worthy and able for command. To act upon any narrower or more selfish motives is a crime against the country. To make official perquisites out of selections for such schools is a prostitution of legislative authority.

3. INCONVENIENCES OF THE PRESENT EXAMINATIONS AND THE CONSEQUENCES.

The selection of a young man by a member of Congress for a cadet decides nothing except that he is to have the exclusive privilege of being examined to see whether he is competent. The favorite selected has the monopoly of being examined from his district. All other aspirants for the place, however much more worthy, must stand aside while the favorite tries to get into it; and if he fails, it may remain unfilled. The examinations are all conducted at Annapolis and extend to both physical and mental qualifications. The sending of the young man there is not regarded as even presumptive evidence that he is qualified in either particular. The designation by the Congressman merely gives the monopoly for his district from March 5 to July 1 of the privilege of being examined; in other words, no one but the Congressman's favorite can be examined during that period. If the designated person fails at the examination, or declines to attend it, that monopoly attaches from July 1 to September 22 to the appointee of the Secretary of the Navy. The young man selected for examination, however limited the means of his parents and however remote their residence, must go all the way to Annapolis to learn whether he has the essential mental or physical qualifications for admission to the Academy. The figures show it to be certain that fully one-half of those who go will fail to pass the entrance examination. The parents of the young men must bear their expenses if they make a failure, and they are all the more humiliated by reason of

the conspicuousness which the journey has given to that failure. It would not, I must think, be easy to devise a system which should be at the same time more unjust, more undemocratic, and more certain to cause vacancies, and therefore to prevent a large part of the possible benefits of such an institution.

It does not need the citation of examples to make it plain that the young man who has made the long journey from Oregon, California, or Texas, and really falls, but not greatly, below the standard of admission, physically or mentally, is very likely to be accepted rather than subject him and his parents to such humiliation and expense. If he is admitted, the Government pays that expense. However conscientious examiners may be, they must find it practically impossible to sternly apply the standard in such cases. It hardly need be suggested that what influence his patron—the Congressman who selected the young man—may have is quite sure to be exerted vigorously in his behalf. These elements of the existing system plainly, constantly, and strongly tend to lower the standard of both mental and physical capacity for admission, some of the consequences of which will appear in figures soon to be given.

It should be here noticed further that such conditions of admission are unfavorable to parents in humble circumstances. It may have strained their resources to the utmost to educate their boy, or they may have declined to attempt it because they could not afford the expense of his journey in case he should fail at the examination.

The records of the examinations strongly emphasize some other consequences of this monopoly of the privilege of being examined. A few examples of the numbers admitted and rejected in a year will illustrate my meaning. In June and September, 1876, 188 persons applied for examination, of whom 12 were rejected for physical incapacity and 81 for mental incapacity. In 1881, in those months, 86 applied, of whom 21 were rejected for physical incapacity and 24 for mental incapacity. In 1883, in those months, 211 applied, of whom 21 were rejected for physical incapacity and 69 for mental incapacity. That is, out of 485 young men who had traveled from their homes to the examinations at Annapolis in these three years, 54 were rejected as physically unfit and 174 as mentally unfit. In other words, 228—or nearly one-half of the whole number who applied—were found to be incompetent! How many of them had journeyed more than a thousand miles at their parents' expense to find out that they were physically incompetent I am unable to say, but such was certainly the fact as to several of them.

From such facts we may imagine the mortification, the loss of time, and the great expense in the aggregate which the present system causes; and, I must think, without the least compensating advantage over a system that would be at once convenient, just, and relatively inexpensive.

But these figures are in other aspects suggestive. They make it plain that selections for examination under the present system are generally based on no personal scrutiny, and consequently that they are controlled by considerations, in great measure at least, regardless alike of the merits of the applicant, the interests of the country, and the needs of the Academy.

In any view of the matter it seems to me quite impossible to defend a method of selecting cadets, the results of the enforcement of which are that nearly or quite one-half of all the boys who are sent to the gates of this National Academy are returned to their parents and patrons as being unfit for entering it.

Why should such a method longer prevail? Why should not the ex-

aminations be opened to every young man who seeks to enter them for the purpose of winning his way upon his own merits to a place in the official service of his country? Is it any part of the object of this Academy to make places for the favorites or *protégés* of any class of public officers? On what principles of justice or policy, if politics or favoritism be not the basis of selecting cadets, can a young man who applies to have his capacity tested at the examinations be turned away merely because he is not recommended by the Representative of his district, with whom, perhaps, the political or social relations of his father are not favorable?

There are other facts in the records of the examinations hardly less significant, as showing that the present system brings many incompetents not only to the examinations but into the Academy.

It is doubtless inevitable that in a course of study and discipline so exacting as that at Annapolis the classes when they graduate should be considerably smaller than when they enter. But the difference in numbers at these periods seems to be too great to be accounted for on any other theory than this—that the examinations are so lenient as to let in some who should have been excluded.

For the ten years, 1871 to 1881, the average number each year in the fourth or entering class was 104, while the average number in the graduating classes was only 54; in other words, not only are one-half of those examined incompetent to enter, but almost one-half of those admitted are unable to graduate.

There are, of course, some resignations as well as expulsions from causes other than a lack of mental or physical capacity; but those included, it thus appears that only one in four of those that go to the examinations are able to get through even the first four of the six years of the course. If the gates of these examinations were open to all who offered themselves, instead of being closed against every one but the favorites of members—or of some of their constituents whom they do not care to offend—and more especially if the examinations were conducted in different parts of the Union, I must believe that superior candidates would appear and that fewer vacancies would exist at the Academy.

4. THE TRUE BASIS OF SELECTIONS FOR THE ACADEMY.

It is for various reasons wise to take care that the cadets, both at the Naval and Military Academies, come from the different sections and States as near as may be in the ratio of their population. But cadets are not, like legislators, representative officers. They have not, as cadets or officers of the Army or Navy, any special duty to look to the interest of any Congressional district. It is not desirable to develop in them any district or sectional patriotism which shall subordinate that which comprehends the whole country. A Congressional district is intrinsically no more appropriate than a county or a judicial district as a basis for selecting cadets.

If each of the States gets its proportion of the cadetships, there seems to be no need for making it an indispensable condition that each Congressional district shall have one at the peril of a vacancy in the quota of a State. Indeed, the law is as inconsistent with itself as it is difficult of execution, in first requiring that from March to July all selections must be made on the basis of one to a district, who must be a resident thereof, but next allowing, from July to October, the selections to be made by the Secretary of the Navy, like those made by the President, without regard to districts or even to States or sections.

The theory that any public interest requires members of Congress to make the selections is repudiated by the facts last cited, as it is also by the law relating to cadets for the Military Academy; for that law, in direct terms, requires the President to make all the selections for examination.

It hardly need be pointed out that the appointment of cadets, like all other appointments, is in its nature an executive and not a legislative function. A member of Congress has not, like the Secretary of War or of the Navy, any special opportunity or duty of knowing the needs of these Academies. In June, when the appointments should be made, he is, and has been for seven or eight months, in Washington overworked and perplexed by the vast demands of legislation, for which more time and thought than members have given to it are imperatively needed.

How can he decide whom to send to Annapolis unless he takes a personal favorite, or balances, as he may, after a tedious correspondence, the claims of importunate friends and exacting constituents?

But, has he a right to take a favorite of his own or of his social friends, or of his political supporters, and thus exclude a more meritorious boy? May he give the place to one of his own political faith rather than to a more promising boy whose father adheres to the other party? Is it right to consider who voted for him at the last election and who can influence most voters at the next election, in deciding who shall be sent to Annapolis to be examined? If yea, then places at the National Academy are the selfish patronage and perquisites of Congressmen; if nay, why adhere to a system which suggests and facilitates such abuses? The records of investigations, which have disclosed in several instances the sale or barter for votes of selections for one of these Academies, make it needless to ask questions of a graver kind.

It is not to be doubted that most members of Congress make a conscientious use of their power of selection, or that they find it very troublesome. But why do so many others covet that power? Why is the opinion so general that it is exercised in the spirit of favoritism, as if it were an official perquisite and not a public trust?

The public protest against the secret and selfish exercise of that power, and the sense of duty on the part of the members to select the most worthy—steadily growing stronger—have more and more in later years united in causing some form of examination to be extemporized in the districts, for the double purpose of avoiding criticism and of securing the most meritorious from among all those wishing to go to the Academy. But the methods of these examinations have been so defective, there has been so much distrust of their impartiality, and their standards have been so low and inappropriate, that they have fallen far short of the results which a good system of local examinations would insure. Neither the physical nor the mental tests have been those applied at Annapolis or West Point, whether in kind or degree. The examiners are often without experience and the notices inadequate. The methods and details of the examination have been as diverse and peculiar as the views of members and the habits of the localities.

There are yet other reasons why a system of open and free examinations should take the place of the present system of patronage and monopoly.

1. The right or claim of every young man to have a place in an Academy supported by the nation is not measured by his standing or influence with the member of Congress for his district, but by his physical and mental capacity and promise for the service of the coun-

try. To refuse all opportunity for testing this claim of capacity and promise at the examinations—except on the part of the single person whom a member chooses to allow to go there—is a wrong to all other aspirants and a loss to the country. It is more in the spirit of feudal despotism than of republican justice.

2. The whole theory upon which rank and precedence are based at the Academy, and according to which offices and promotions are conferred after the course there has been completed, is that every one must make his own way and win his rank for himself solely upon his own merits.

Congressional favor and official influence behind count for nothing. No one will pretend that a member of Congress should be allowed to select those who alone are to be allowed to be examined for promotion. But why not, on the theory which allows him to say who alone may be examined for admission?

If five or ten young men from a Congressional district wish to compete for the privilege of entering the Academy, why should their Congressman decide that only one shall be examined? Does not the Government prefer the most meritorious, and has not that one the strongest claim? If it be said that it is to be presumed that the Congressman selects the best, then, I ask, why does not his selection give entrance to the Academy and not merely admission to the examination at its gates? It is simply because his selection is recognized as not adequate for determining who of all applicants is the best, or even fitness for entering the Academy at all, that the examination is made the sole test for admission. Therefore, personal right, the public interest, and the whole theory of grades at the Academy alike require that the examination should be open to all. It is too plain for argument that the same principle which gives the best in the competition of the classes the highest honors and the first offices, and which all along the whole line of active service makes promotion dependent upon personal merit, also requires that the most competent applicants in a State should be able to secure admission for the simple and single reason that they are the most competent.

3. The present system says to every young man—

The filling of the Naval School with cadets is a perquisite of certain great officers, and your prospect depends primarily upon your parents' standing well with your member of Congress and not on your own merits. Your chances, except in the cases where members stand absolutely for that common justice on which all open, free examinations rest, do not depend on your showing more capacity than any one else wishing to enter the Academy from your district or State, but on your bringing more influence to bear upon your member. He opens and shuts the gates of the examinations for reasons of his own. Consider these reasons. Above all things make sure you are his favorite.

And thus, at the very opening of his career, the future officer of the Navy is taught the pernicious lesson—which the whole course in the Academy may not obliterate—that office and favor in the Navy, at least so far as members of Congress are concerned, go not according to merit, but according to influence. All young men outside the favorites who are denied the privilege of competing at the examinations are also taught the same lesson.

Many a cadet has abundant reason to believe that, if there had been an open competition of merit in his district or State, some other more capable applicant than himself would have gained the prize of a cadetship. In that feeling, there is danger that he will be obsequiously grateful to his member. On the other hand, the cadet expects—and too often not without reason—that his member will not allow him to be

rejected at the examination if he can prevent it, or to be brought to any very serious account for his delinquencies. He appeals to his Congressman against the Academic authorities when he is arraigned for offenses. It need not be said that this is highly prejudicial to discipline.

I must go further and add that I regard it as a detriment to the public interests to have members of Congress hold any such personal relations to the beneficiaries of a national academy. They should sustain a common relation of impartiality to every cadet. They should be subject to no bias and affected by no pride or public sentiment which inclines them to the care of one cadet rather than another. The proper relation is not that of client and patron. The cadetships in both Academies, dissevered from all ideas of official favor and patronage and brought to strict tests of personal merit, should be regarded as honorable prizes for which every young man, with courage, aspiration, and patriotism enough to enter himself against all competitors, should be at liberty to make an effort to win in a free, open, manly examination.

Why should a member of the House of Representatives, any more than a senator, a governor, a mayor, or any other officer, be allowed to stand between the citizen and the examination, and say, "None but those I have ticketed shall attend these examinations"? Why should the conditions of entering the great fighting professions of the country be made favorable to the class most assiduous and obsequious in those devotions which too often win the favor of high officials, rather than to the bolder and more self-respecting class of young men who would go unaided to the examinations, if the feudal barrier of Congressional consent were removed, but who refuse, or whose parents refuse, to resort to cringing or unmanly solicitation for the privilege?

It is much to be desired, when the cadets look into the faces of each other on parade, that they should see, not *protégés* admitted to the examinations by the favor of great officers, and constantly protected by them—not persons who disclosed merely the capacity for rising above a minimum grade at the examinations—but young men who came forward unaided, who have demonstrated their superior capacity in a free, open test of merit, and who have held the places they won without the aid of a patron at court. No Congressman or other great officer, under a true system, could look at one of the cadets and say, "You are my man; I put you into the Academy"; for each of them, under free competition, would win his place for himself, and would be the cadet and the officer of no one but his country and his whole country.

5. THE PRESENT SYSTEM UNCONSTITUTIONAL.

But there is another very different but very decisive reason why the present method of selecting cadets for the Naval Academy should come to an end. It is founded in a usurped authority in violation of the Constitution. The cadets at West Point and Annapolis alike are "inferior officers" in the view of the Constitution, and their appointment is an executive and not a legislative function. The Constitution declares that Congress "may vest the appointment of inferior officers in the President alone, in the courts of law, or in the heads of Departments"; but Congress has no authority or right to take such appointments to itself or to distribute them among its own members. It might as well thus distribute all the appointments to the Departments and custom-houses.

Even if originally a plausible claim could have been made that the selection of a cadet was not in legal effect an appointment of an inferior officer within the meaning of the Constitution, Congress has by its own

action condemned that claim. For, treating cadets at West Point as such officers, Congress has, under the clause of the Constitution just cited, vested their appointment in the President alone (Rev. Stats., section 1315). And even in the very section of the statute (section 1514) in which that clause is violated by Congress usurping for its own members the appointment of nearly all the naval cadets, the President is allowed to appoint eleven of them, and the Secretary of the Navy is, by appointment, to supply cadets for all the vacancies which Congressmen leave unfilled. Not only, therefore, are two repugnant theories of the Constitution declared in the provision for selecting cadets for the two Academies, but both these repugnant theories are enforced in the single section of the act relating to the Naval Academy.

It is true that the latter section, which is remarkable for its inaccurate and careless phraseology, only says that the "nominations" shall be made (without saying by whom) "on the recommendation of the member or delegate." The intention, however, which the practice has followed, was that nomination included appointment and that the recommendation limited and should practically control both. In other words, the Congressman's recommended favorite alone may be appointed from March to July, as before explained.

6. EXPERIENCE HAS CONDEMNED SUCH PATRONAGE.

But even if the member was held to have only usurped the power of nomination, that would be equally repugnant to the Constitution. The appointing power cannot be thus divided and parceled out between executive and legislative officers. If members of Congress may limit the appointment of cadets to persons they recommend, they may in the same manner and for the same reason limit the appointment of consuls, judges, and ambassadors. The only justifiable division of the appointing of that kind is that declared in the Constitution itself in conferring the power of confirmation upon the Senate. No such power is anywhere allowed to members of the House.

The question of the patronage of these cadetships relates only to a fragment of the old perquisites and spoils, a great mass of the civil part of which, covering more than 14,000 appointments, was taken away by the civil service act of January 16, 1883. The filling of all those places—before in substance apportioned to members of Congress—is by that act made dependent upon free, open, competitive examinations, held in the several States, and with great and recognized advantage to the public service. On the 7th of the present month, a committee of the House of Representatives, after a very thorough investigation, in a unanimous report approved and commended the examinations now being conducted under this law.

During many years, Great Britain has enforced such examinations at the gates of her military schools, by which their standard and their character have been elevated. They have been tested for more than a decade both in the home military and civil service and in that of British India, with like results. For the Royal Military College, the Royal Military Academy, the Royal Marine Artillery, and the Royal Marine Light Infantry, such examinations were several years since made the conditions of admission.

There appears to be no good reason why we should not profit by her example, by consistently acting on our own precedent in the civil service. I feel confident that most members of Congress would be glad to be relieved of the annoyance of making these selections. That the adminis-

tration of the Academy would be made easier, and that the capacity and attainments of graduates would be higher, under a system based on personal merit and common justice, I cannot doubt. It is impossible that a selfish and feudal test shall be long continued for the Army and Navy, now that such a system has been condemned in the civil administration. There is no more reason why cadetships at the Academies at West Point and Annapolis should be open only to the *protégés* or nominees of members of Congress than there is why clerkships in the War Department and the Navy Department should be open only to such *protégés* and nominees.

7. THE APPROPRIATE EXAMINATIONS.

It is hardly appropriate to enter into details here concerning the practical methods of these examinations. With proper adaptation to the peculiar needs of the Academy, they could follow closely upon the precedents which have been so successful, on a vastly larger scale, in our civil service.

The following fundamental conditions will be a sufficient illustration of the proposed system:

1. Appointments to cadetships should be apportioned to the States according to population (allowing one to each Territory and one to the District of Columbia), with conditions, if deemed wise, in the interests of Congressional districts as hereinafter mentioned.

2. The examinations should be seasonably held at such parts of the Union as will accommodate one or more States, without requiring applicants to travel unreasonable distances; but those residing not too far from Annapolis could still go there to be examined. Examinations could be held at one or two places in New England, and at as many in California and Texas, for example.

3. There should be an appropriate form of application for an examination, in which the applicant should be required to set forth under oath his age, residence, nationality, education, and such facts covering his mental and physical capacity, and his history, accompanied with proper vouchers for his character, as would altogether show him to be apparently qualified for admission to the Academy. Neither any influence nor any recommendation on the part of any member of Congress, governor, mayor, party manager, or other prominent person should be required for making this application. But such officers, like other citizens, could advise friends to make an application and take their chances with others in a free, manly way.

4. The tests and questions for these local examinations, whether relating to physical or mental qualifications, should be prepared by and applied according to the directions of the Academic Board of the Academy, subject to any proper supervision by the Secretary of the Navy. They should be of the *same kind and grade* which would be used if the applicant was examined at Annapolis. Those who failed to pass above a prescribed minimum grade should be held ineligible to admission, precisely as they would be if examined at the Academy; and there could be just provision for re-examinations in proper cases.

Local examinations of this kind are being yearly held by our leading universities for the admission of students under uniform methods, and with complete success. But a New York journal of to-day records the suspension of an extemporized Congressional district examination there for the Naval Academy because it was not known whether algebra should be included!

The quota of a State should be filled by selecting the highest in grade (under a proper combination of the mental and physical tests) from all those who competed from the State. If the distribution of cadetships among the Congressional or judicial districts of a State should be thought more important than to secure the most meritorious applicants from the whole State, an applicant from any district who has passed the minimum grade for eligibility could be given a preference over candidates from other districts of the same State although they have shown superior qualifications.

5. A medical officer in the service of the United States near the place of examination or, what would be preferable, such an officer from the Academy, with one other officer therefrom taking the questions should attend the examinations. The answers upon the papers prepared at the Academy would be taken back there by the examiners. The papers would be marked and graded at the Academy from whatever States the applicants came; and thus complete uniformity and justice would be secured. Except those near at hand who went there for examination, only those finally appointed for admission would need to go to Annapolis at all.

6. In case of vacancies occurring at any time after the annual examination, those on the examination-lists should be eligible, in the order of their standing, to fill such vacancies.

7. To meet the technical need of an appointment, the Secretary of the Navy should be required to appoint those graded highest on the examination-list according to clear rules, subject to which all the examinations should be conducted, as he now appoints clerks for his Department.

Under such a system, which would make both the Military and the Naval Academies truly representative of the freedom and justice of our institutions, which would open them to all classes and all parties alike, which would exclude patronage, favoritism, and monopoly by making cadetships the prizes of superior personal merit, which would bring the methods of gaining admission to those institutions into harmony with the methods now being enforced for entering the departments to which the Academies are subordinate, I am persuaded that cadets of superior qualifications would be secured, that the Academies would stand higher in public estimation, and that members of Congress and the President would be relieved of much annoyance in the dispensation of a patronage which is not only indefensible upon any sound policy, but is mischievous in all its effects.

DORMAN B. EATON.

I concur most heartily in the general spirit and in most of the conclusions of Mr. Eaton's special report.

GEO. H. PENDLETON.

I concur in the arguments and general conclusions of Mr. Eaton in the foregoing special report. It cannot be doubted that the existing system of admission to the Naval Academy is open to very strong objections. Any new system adopted should of course be subject to the approval and control of the Superintendent and Academic Board of the Academy.

EDWARD S. JOYNES.

We concur in Mr. Eaton's special report.

W. H. UPHAM.

STEPHEN M. ALLEN.

E. S. JEWETT.

Hon. WILLIAM F. CHANDLER,
Secretary of the Navy.

REPORT OF THE SUPERINTENDENT.

UNITED STATES NAVAL ACADEMY, ANNAPOLIS, MD.,

November 1, 1881.

SIR: I have the honor to report that during the past year the prescribed course of instruction has been carried out; that forty-six cadets completed the four years' course in June last, five "with distinction" and twenty-five "with credit," and were detached from the Academy to perform two years' service afloat. Twenty-five of this class entered as cadet-midshipmen, and twenty-one as cadet-engineers.

The usual summer practice cruise was made by the cadets of the first, third, and fourth classes, in the sailing ships *Constellation*, and *Dale*. Copies of the reports of the commanding officers of these vessels are forwarded herewith, marked A, and B.

The cadets of the second class were retained at the Academy during the summer and daily instructed in mechanical work in the shops of the department of steam-engineering; they were also instructed in running and managing steam-launches, managing boats under oars, and under sails, signaling, steam-fleet tactics, howitzers afloat, target practice with mortars, machine guns, rifled howitzers, and great guns.

Necessary repairs and improvements have been made to the public buildings and grounds as far as practicable during the year.

Eighty-three candidates for admission presented themselves in May and June last and eighty-one in September. Of this number one was over age, one withdrew, one was refused examination, fifty-two failed to pass the required mental examination, and twenty-five were rejected for physical defects. The physical defects of nine were waived by the Department. Ninety-three were admitted and appointed naval cadets.

Experience has shown that cadets who enter the Academy in May gain a great advantage over those who enter in September, and I therefore respectfully recommend that hereafter all nominations of candidates shall be made by the 4th day of March, and that all candidates for admission shall be required to present themselves for examination between the 15th day of May and the 1st day of June. This would necessitate a modification of section 1514, Revised Statutes.

I also respectfully renew the recommendation made in my last report, that it will be beneficial to the Navy and to the cadets, and a saving of expense to the Government, to so modify the act of August 5, 1882, that the selection of cadets who are to fill vacancies in the lower grades of the line and Engineer Corps of the Navy and of the Marine Corps, shall be made upon the completion of the four years' course, instead of upon the completion of the six years' course.

I am, sir, very respectfully, your obedient servant,

F. M. RAMSAY,

Captain, U. S. Navy, Superintendent.

Hon. W. E. CHANDLER,

Secretary of the Navy.

REPORT OF THE CHIEF OF THE BUREAU OF YARDS AND DOCKS.

BUREAU OF YARDS AND DOCKS,
NAVY DEPARTMENT,
Washington, D. C., November 8, 1884.

SIR: The following report of the operations of this Bureau for the fiscal year ending June 30, 1884, is respectfully presented, accompanied by (and forming a part of said report) tabulated statements of the expenditures and estimates from the commandants for the fiscal year ending June 30, 1886.

From these statements it will be seen that the gross amounts estimated are as follows :

For works of improvements	\$7, 754, 721 37
For repairs and preservation	1, 159, 836 69
For general maintenance	566, 841 53
For civil establishment.....	49, 264 25
Grand total.....	9, 530, 663 84

Sheets Nos. 7 and 8 present in detail the objects for which the estimates are made under the two principal heads of "general maintenance" and "repairs and preservation," while sheet No. 6 presents in detail the objects of "improvements" as estimated for.

Considering the very limited appropriations under which the navy-yards have been operated for the past few years, I am of opinion that the estimates under the two heads "general maintenance," and "repairs and preservation," are not much, if any, in excess of the actual requirements to maintain the ordinary requirements of the yards, and to make good the deterioration of enforced neglect.

Under the heads of the various yards, I shall respectfully present my views on such of the estimates as seem to me deserving of special mention. I deem it only proper to say here that in my opinion the limited appropriations of the last few years have been devoted to such work as presented the most immediate and pressing necessity, but of necessity leaving much undone that should have been done, and I would further say that, in all important matters looking to the economical administration of the affairs of the Bureau, it has almost without an exception been cheerfully assisted by the commandants of the various yards.

NAVY-YARD, PORTSMOUTH, N. H.

Among the items for "repairs and preservation" at this navy-yard will be found one of \$20,000 for dry-dock. This sum will be absolutely required to put the floating dry-dock and ways in thoroughly serviceable condition, and I deem it of so much importance that I would recommend this amount to be taken from the general appropriation of "repairs and preservation," and made a special one, under the head of "improvements," to be made available as soon as passed, in order that the work of repairs to this important and valuable adjunct may be commenced before deterioration progresses further.

Under the head of "improvements" at this yard is an item of \$25,000 for "water-works." The many steam generators furnishing power to the various mechanical industries of this yard are mainly dependent for their supply of water upon two ponds, of limited area, upon Seavey's

Island. These ponds are supplied partially from springs, but mainly from rains. The *superficial* area of the largest and the principal of these two ponds has been so extended by alluvial deposits, and by the rank growth of weeds and grasses, as to very seriously reduce its storage capacity, while at the same time very largely increasing its evaporating surface. It should be dredged, and its confining embankment be raised. The supply of water is now barely sufficient for the limited operations of the yard, and should an emergency arise requiring the operation of the entire steam-power of the yard, water would have to be brought in tanks or casks from some miles up the Piscataqua River, at a very heavy cost in time, labor, and money, and with very doubtful results.

NAVY-YARD, BOSTON, MASS.

During a portion of the fiscal year embraced in this report the operations of this yard have been carried on under an appropriation for "closed navy-yards," but the portion of this appropriation which could be allotted to it being inadequate, it has been helped out from other appropriations.

The anomalous position of this navy yard places me under some embarrassment as to what to recommend; but assuming that it is not to be abandoned, but, on the contrary, to be eventually restored to its former condition of efficiency, and indeed to a point beyond, commensurate with the needs and requirements of the new Navy which it is to be hoped the liberality of Congress may soon create, I respectfully recommend specially the following items under appropriation "repairs and preservation," yard buildings, wharves, bridges, &c., roads, walks, gutters, &c., cranes, scows, and derricks, dry-dock, as being of primary importance.

Of the works estimated for under the head of "improvements," all are of such primary importance to the efficiency of a first-class yard that I only hesitate in recommending all, because of the amount involved.

Of these "improvements," the most important seems to me to be the "iron-platers' shop" "relaying of water-pipes"—the bad condition of the present underground service involving great waste—"cart shed"—necessary for the proper care and preservation of yard vehicles—"floating gate to dry-dock," and the "rebuilding of wharves."

Repairs to the dry-dock are provided for under the appropriation "repairs and preservation," but the new gate is asked for under the head of "improvements."

This dock has a pair of swinging gates, and a caisson. The former have not been used for many years, owing to their decayed and unsafe condition. The caisson is also in bad condition, and it will soon become necessary to put it out of service, which will render the dock useless. One gate is not enough for the dock, and I strongly urge an appropriation for a "new caisson," or a pair of turning gates, preferably the former, as more convenient in use, and less liable to disarrangement. With two caissons the danger of accident is lessened.

The rebuilding of the wharves I deem of great importance. The wharf facilities are inefficient for a first-class yard in active operation, and what we now have are in a dangerous condition; on some of them a horse and cart cannot be trusted.

With the prospective increase, or more properly the building, of a new Navy, the docking facilities of this yard will be found inadequate.

The substitution of a modern derrick in place of the present antiquated and inadequate sheers for lifting heavy weights, is a matter that will

require serious consideration in connection with the rebuilding of the Navy. The capacity of the present sheers is believed to be not exceeding 70 tons.

There are modern guns far exceeding this weight.

The estimates from the navy-yard, Boston, for two additional dry-docks are \$2,455,200. No estimate is presented for a new derrick, but it would probably cost from \$50,000 to \$60,000. These two items are presented, not as objects of immediate necessity, but as contingent upon the future action of Congress in the retention of the yard and rebuilding of the Navy.

NAVAL STATION, NEW LONDON, CONN.

No work has been done at this station during the fiscal year, and no expenditures made, except such as have been necessary to the care of the public property and maintaining communication between the station and city of New London, from which place all supplies are drawn. The total of expenditures for these purposes has been \$4,042.55, and for the fiscal year ending June 30, 1886, it is estimated that there will be required a total of \$6,850, viz: \$1,200 under "repairs and preservation" and \$5,650 under "general maintenance." This increased amount is asked for that proper care may be taken of the public property pertaining to the station.

I respectfully renew my recommendation of last year, that if nothing is to be done in the way of developing the possibilities of this station all the portable property be transferred to some other yard, or sold, and the station left in charge of one or two reliable watchmen, one of whom shall at all times be present.

NAVY-YARD, NEW YORK.

The works of improvement at this yard were the intercepting sewer, dredging, and rebuilding of dry-dock caisson, for which there was an appropriation of \$150,000.

"The new sewer as completed is a great improvement. The filthy sewage of a large city area, heretofore discharged into the sluggish waters of the Wallabout in the immediate neighborhood of the working part of the yard, is now carried to the East River, where it is quickly so diluted as to be inoffensive, and where the swift tidal currents will, it is believed, prevent any great accumulation of deposit. A marked and most favorable change in the character of the water along the wharf front immediately followed the completion of this new sewer."

From the water-front of this yard there has been removed by dredging 205,809 cubic yards of material, at a cost of 24½ cents per cubic yard, as per contract.

The dry-dock caisson has been practically rebuilt, at a cost of \$20,814.72.

Of the appropriation of \$50,000 made for the improvement of the cob dock, the small sum of \$2,636.63 has been expended for pay of draughtsman in making plans and for materials and labor in repairing the bridge leading from the yard to the cob dock. Under your instructions no other expenditure from this fund was to be made except in the direction of a comprehensive plan for the general improvement of the cob dock. Such a plan was made, and received the approval of the Bureau and yourself.

This plan embraced as a primary feature the construction of a solid bridge or causeway between the yard and the cob dock.

The question of our right to erect a permanent structure which would interfere with the water travel through the Wallabout channel having come up, it was decided to do nothing until this point was settled. It not having been settled at the end of the fiscal year ending June 30, 1884, the balance of the appropriation, viz, \$47,363.37, reverted to the Treasury, but Congress at its last session reappropriated this amount, and it is now to our credit for this fiscal year.

Repairs more or less extensive have been put upon thirty-eight of the buildings in the yard, as also upon the wharves, roads, drains, fences, &c. The funds available for this description of work have been so inadequate, much of it has necessarily been very slight and superficial. There is much to be done in the way of repairs.

Estimates are presented for the following works of improvement: General storage for yards and docks, \$85,000; boiler-shop wing to machine-shop, \$123,935; shipwrights' shed, \$14,000; dry-dock caisson, \$30,000; repairs to dry-dock, \$125,000; two timber dry-docks, \$1,200,000.

The great need of a building for storage purposes is self-evident, when materials, tools, and appliances of every kind are found stored about in odds and ends of places, many exposed to the vicissitudes of weather, and all more or less exposed to injury and depredation.

The boiler-shop wing to the machine shop is simply the carrying out of the original plan of this building, and is deemed necessary for the efficient operations of the department of steam engineering.

The shipwrights' shed is needed for facilitating the work in construction department, especially that upon vessels undergoing repairs in the dry-dock. The present structure is past repair, is useless—in fact, an element of danger.

An additional caisson is estimated for. I deem this essential. The iron turning gates are no longer safe or fit for use, the sheathing having entirely corroded through in many places, and the ribs being very much reduced in strength by corrosion. When the dock is thoroughly repaired, as it soon must be, either a new pair of turning gates or an additional caisson must be supplied. For many reasons the caisson is preferable.

An estimate is presented and urged for an appropriation of \$125,000 for repairs to the dry-dock. This dock is in such condition that it has been pronounced by a board of experts as unsafe.

Such temporary expedients as could be devised, almost wholly of wood, are now in use to render it safe, but it should be taken in hand and thoroughly repaired as soon as the money can be available.

This dry-dock is of the first importance to the Navy. Of the three stone docks belonging to the Government, it is the only one having sufficient length to dock the Tennessee. In this connection is it not advisable to provide for at least one more dry-dock at this navy-yard?

An estimate is presented for *two* timber dry-docks, on the Simpson plan, at a cost of \$1,200,000 for the two.

The estimated cost of a granite dock of 500 feet in length is \$2,000,000 (the present one of 350 cost more than that), while that of *two* Simpson docks of the same capacity is \$800,000 less.

The extensive use of iron and steel in the modern construction of ships render more frequent docking necessary than is the case with wooden ships, and hence the necessity for more docks.

I deem it of great importance that the proposed work of improvement of the cob-dock property should be carried on, and an appropria-

tion of \$200,000 it is thought can be judiciously and economically expended on it during the coming fiscal year.

Under the heads of "repairs and preservation" and "general maintenance," the estimates are respectively \$242,000 and \$128,000. These amounts seem large, but I am not prepared to say they are excessive; on the contrary, they will not more than suffice to repair damages of the past, and partially keep up with the decay of the future. Every dollar of it can be properly and profitably expended in caring for the public property.

NAVY-YARD, LEAGUE ISLAND, PA.

This navy-yard has been to all intents closed, so far as the operations of this Bureau are concerned, for the greater part of the present fiscal year, and yet the expenditures under the heads of "repairs and preservation" and "general maintenance" have been \$20,947. The uncertainty of the future status of this yard causes great embarrassment in estimating for the coming fiscal year.

For erecting the buildings and making the improvements originally (and subsequently from year to year) contemplated involves a sum in close proximity to \$1,000,000, or rather, that is the estimate.

Under the present circumstances I only propose to ask for an appropriation of \$26,416.40 for the construction of a wharf at the foot of Fifteenth street, under the head of improvements, this seeming to be an item of importance.

Under the head of "repairs and preservation," I have asked for \$67,000, and under "general maintenance," \$50,000, and these sums are not more than will be sufficient to care for the property even when no work is going on in the many buildings, and no wear and tear of roads, walks, wharves, bridges, &c. Should the yard be reopened for work, a larger amount will be necessary.

NAVY-YARD, WASHINGTON, D. C.

The only work of improvement carried on at this yard during the fiscal year has been that of dredging the channel. The total amount expended to June 1, 1884, has been \$15,715.65, and the material excavated and deposited on the flats has been 105,338 cubic yards, or at the rate of 14.9 cents per cubic yard; adding 20 per cent. of the cost of the scows, the total cost of dredging will be 16.34 cents, a showing very creditable to the engineer under whose immediate supervision the work has been done. The result of the dredging operations has been the securing of a channel from the navy-yard to the Arsenal Point of eighteen feet depth at low water, and a mean width of 125 feet, while in front of the yard the same depth has been secured with a width at the bottom varying from 220 to 270 feet; but it is estimated that this is still insufficient for the needs of the yard, and it is recommended that the work be continued until widths of 200 and 350 feet be obtained in the respective channels; for while it may be argued that the present width and depth may be sufficient for present needs, but in view of the prospective business of the yard, and the liability—owing to the nature of the bottom through which the cuttings are made—of caving or sliding, thus reducing the width, it is very desirable that the work should be continued, and for this purpose an estimate of \$25,000 is suggested.

The total expenditure for material and labor, under appropriation "repairs and preservation," has been \$17,274.80, a sum inadequate for

the proper care of the very large amount of property to be cared for under that appropriation.

Under appropriation "general maintenance" the total expenditures for material and labor have been \$23,193.24, and the same remarks may be applied to this as to those under "repairs and preservation."

Every effort has been made, not only at this but in all the other yards, to keep the expenditures within the limit of the appropriations. This has been accomplished, but I am satisfied that it has not been in the interests of practical economy.

The estimates presented for works of "improvement" are for new ordnance machine-shop, \$95,000. This is in accordance with the recommendation of a board of officers appointed by the honorable Secretary of the Navy, approved June 30, 1881; the extension of yard wall through marsh on south side, \$21,711. This is necessary for the protection of the yard, which is entirely open on that side, and the appropriations do not furnish sufficient funds to provide an adequate police force. Continuation of dredging, \$25,000. Construction of ventilating flue for smithery, \$12,250. An estimate has been made yearly for the last three years for the increase of the yard by the purchase of two additional city squares, at a cost of \$25,000, but as the present business of the yard is principally manufactures, prosecuted in buildings already erected and believed to be ample, this addition is not now recommended.

The condition of the west ship-house is such as demands immediate attention. It should be extensively repaired or else demolished. In the former case a special appropriation would be required, but as ship-building has practically ceased at this yard, I would not advocate the repairing of this building, but rather its demolition.

The estimates for "repairs and preservation" are \$30,000, and for "general maintenance" are \$40,000.

NAVY-YARD, NORFOLK, VA.

No works of improvement have been undertaken at this yard.

The expenditures under the appropriation "repairs and preservation" have been \$38,606.44, and under "general maintenance" \$31,089.34. While much has necessarily been left undone, it is gratifying that so much has been accomplished.

The estimates presented from this yard for recommended improvements therein amount to over \$1,000,000.

The importance of this yard seems to warrant the expenditure of large amounts to improve its capacity for any and all kinds of work which it may be called upon for. The natural advantages of this navy-yard in location and climate specially recommend it for consideration. From among the many objects of improvement presented in the annual report forwarded by the commandant the following are selected as being most important: Dry-dock extension, \$240,002; new pumps for dry-dock, \$52,600; extension of quay-wall, \$384,400; railroad extension, \$47,479; floating derrick, \$49,189.

The existing stone dry-dock, a good and substantial structure, is in good condition, but is not adequate for the coming needs of the service. The ships now building and those contemplated to be built in the future are too long to be docked here. There being no other Government dock nearer than New York, the importance of this one at Norfolk is manifest, and its capacity to do any work that may be assigned to it should be placed beyond peradventure. I therefore strongly recommend the appropriation asked for. In this connection it is safe to say

that one dry-dock is insufficient in so important a yard. There should be at least two of these important adjuncts. A second dock could be advantageously built in close proximity to the existing one, and the new pumps and pumping machinery asked for could be so placed as to do the work of both docks. In case you concur with me in opinion as to the necessity of another dry-dock, I shall be glad to present plans and estimates for the same. If the existing dock is enlarged as recommended, I deem it essential that new pumps, &c., be provided. The capacity of the present pumps, of old style and inferior power, is barely sufficient for the dock in its present condition.

The extension of the quay-wall is a work of great importance, and should be carried forward with as little delay as possible. In consequence of the ravages of the teredo, wooden structures in the waters in and about Norfolk are of limited duration—not more than six or seven years. The amount annually expended in keeping the present wooden wharves in serviceable condition is fully as much if not more than the interest at six per cent. on the amount asked for the continuation of the quay-wall.

The estimate for the extension of railroads is believed to be in the interest of economy. It contemplates substituting steam for oxen, horses, and mules, and it is believed that a greater amount of work, and at considerably less expense, can be secured than by the present slow system.

A floating steam-derrick is an important and necessary appendage to a navy-yard, especially one like this, with an extended water-front. At this time there are no means of transporting heavy masses from one part of the yard to another, and it may often become important to remove from or put into a ship boilers or heavy guns when the standing derrick cannot be spared for the purpose.

Estimates for “repairs and preservation” at this yard are \$100,000, and for “general maintenance” \$56,000.”

NAVY-YARD PENSACOLA, FLA.

The total expenditures at this yard during the fiscal year have been \$19,084.81 under all heads of appropriation.

The yard has been closed for all general work, and only such expenses have been incurred as were absolutely necessary for the care of the public property.

The climatic influences at this station are such as to cause more rapid deterioration and to require more constant attention to out-door property than is the case at more northern stations. Among other items of property thus situated are four sections of an iron floating dry-dock. The machinery for this dock is stored under cover in the yard, but the dock itself is exposed to the elements. Two of these sections are now hauled up on the beach, after serious injury by being sunk in the basin. The two sections still afloat are undergoing the same process of injury by corrosion in salt water, and there are no funds at the disposal of the Bureau with which to properly care for them. These two sections should be hauled out and properly cared for, and to do this I estimate will require about \$10,000. But if the navy-yard is not to be maintained, it would be economy to sell this dock.

The estimates presented for the care of this yard and property for the next fiscal year are \$6,850.90 for “repairs and preservation” and \$12,630.50 for “general maintenance.”

PAPERS ACCOMPANYING THE
NAVAL STATION, KEY WEST, FLA.

The expenditures at this station have been \$7,819.02, of which amount \$4,354.08 was in connection with the new wharf, leaving the amount actually expended on the station proper \$3,464.94.

The estimates for the coming fiscal year for "general maintenance" are \$1,789.50 and for "repairs and preservation" \$6,355.70, and a special estimate of \$15,000 for the purchase of the Mallory lot. This so-called Mallory lot is a piece of property interjected into the Government possessions, dividing them, and preventing access from one part to the other without going around by the street. Its possession by private parties is also an injury to us in the curtailment of water-front.

The estimate for "repairs and preservation" is intended to cover not only the ordinary repairs and care of buildings, fences, walks, &c., which in this climate need more than ordinary care, but to rebuild the bulkhead around coal-house, to build a cistern at the machine-shop, to relay a portion of the railroad track, and to furnish suitable coal-cars.

The entire water-front of our property should be bounded by a permanent concrete wall, to preserve it from the encroachments of the sea.

The cistern at the machine-shop is of first importance. Its present supply is rain catchment in two old iron ship-tanks, of capacity to supply the boiler for a few hours only. When the machine-shop is in active operation its supply of water has to be carted from the main storehouse cisterns a considerable distance and at considerable expense.

NAVY-YARD, MARE ISLAND, CAL.

Progress upon the stone dock in process of construction at this yard has been very satisfactory. The entrance of the dock has been completed, and were the pumps in place, the dock could be used in a few months, though not entirely completed as designed.

The completion of the entrance and the near completion of the caisson has largely eliminated the element of danger from the weakness and dilapidated condition of the old coffer-dam.

A contract was made with the Union Iron Works of San Francisco on the 5th of March, 1884, for the construction of a caisson. This caisson is at present writing very near completion, but it is not proposed to put it in its place until the erection of the pumping machinery, a contract for which was made with the Southwark Foundry and Machine Company of Philadelphia on the 31st of July, 1884. I had hoped that this important work would have been completed during my term of duty as chief of this Bureau, but that is out of the question, and as this will be my last official utterance on this subject, I desire to place upon record my high appreciation of the industry, skill, zeal, and intelligence with which the work has been carried on by those immediately concerned in it. I am more than satisfied with the wisdom of the selection of the civil engineer, Mr. C. C. Wolcott, under whose personal supervision and control the work has progressed for the past two years and more.

In presenting the estimates for improvements at this yard for the next fiscal year, I would premise by saying that while they seem large, when the importance of this yard is considered, at present, and what its importance will be in the future, when the Navy shall be restored,

even in part, to its former magnitude, the estimates will not seem so extravagant.

Completion of stone dock	\$300,000
Extension of timber-shed No. 94.....	13,005
Cisterns	41,345
Rolling mill for steam engineering.....	40,000
Boiler shop floor	1,200
Wharves	93,000
Roads	42,717
Sewers	7,000
Gate-house and guard-house.....	20,000
Artesian well	10,000
Iron crane	40,000
Iron-plating shop.....	4,000

It is confidently believed that the amount asked for to complete the dry-dock will be ample for that purpose. It is not alone the completion of the dock in itself that is contemplated, but the completion of the surroundings.

In 1873 a plan of this yard was formulated by a Board of Civil Engineers, and was approved by the Secretary of the Navy. One of the features of this plan was the reduction of the grade of the yard twenty-two inches along the present water front. The coping of the dock was made to conform to this grade, and as the recommendations of the Board have never been carried out, the result is that the coping is from 4 to 9 feet below the present grade, making of the dock a reservoir for the drainage of the contiguous territory.

The second item, viz, "Extension of timber-shed No. 94," has been urged annually since I have been in this office. Its necessity is as apparent as it was originally.

Of the third item of the estimates, viz, "Cisterns," I can only repeat what I said in my last annual report. The water famine of the last two years has shown the necessity of greater storage capacity. Since the enlargement of the reservoir the rainfall has been so slight as to make no appreciable increase to its contents. Our supply of water is mainly derived from the Vallecjo water-works, and during the past season their source of supply has run so low that they have been obliged to curtail the quantity, and at times to cut off entirely the allowance to the yard, compelling a reliance upon our very limited cistern storage and the little brought from time to time by boat. It is needless to say that a large establishment of this kind, with so much valuable property at stake, should not be left in this condition. A water famine such as has existed at this yard during the last year and part of the preceding, is an ominous warning of the impolicy of relying entirely upon catchment for our supply of water. At the urgent solicitation of the civil engineer, Mr. Wolcott, favorably indorsed by the commandant, I consented to a trial to procure water by boring. I confess to some hesitation in giving consent to the proposal, from the fact that repeated experiments in this direction previously made had failed. Nevertheless, the arguments in favor of success, and the importance of the result, if successful, overcame my hesitation, and consent was given. Operations were commenced on December 31, 1883, and prosecuted with imperfect appliances and with such limited funds as I could spare from time to time until July 1, 1884, when a depth of 500 feet had been reached and a flow of water of about 10,000 gallons per day secured. The indications are of the most favorable character for ultimate success in securing an abundant supply of water. The cost has been

thus far \$3,500. The last 400 feet of progress have been through marked water bearing strata, very similar in character to that through which a well was successfully driven at Benicia, some 20 miles distant. The Benicia well reached a depth of 1,650 feet, at a cost of \$25,000. A similar well at Charleston, S. C., has a depth of 1,260 feet, at a cost of \$30,000. I earnestly urge the appropriation asked for the continuation of our well. The cost thus far has been insignificant in comparison with the two cited, and it is not probable that its future cost will very much exceed the cost per foot of that already accomplished. But even should it do so, the immense value of an abundant, never-failing supply of water would amply compensate for the money bestowed.

A rolling-mill should be an essential feature of every navy-yard. Without one the valuable scrap-iron which accumulates in a navy-yard has to be sold, and rarely brings anything like its value, but when re-rolled, at comparatively small cost, becomes a very superior article. The rolls and machinery for working up this now useless scrap are on hand in the yard. The appropriation is asked to erect a suitable building and construct the foundations for the heavy tools and machinery.

Of the 1,800 feet water front of this yard, but 1,000 feet is adequately protected by a permanent quay wall. The remaining 800 feet is an unsubstantial wooden structure. The appropriation is asked for to complete this portion of 800 feet in conformity with that already completed, and to extend the line of piling to the machine-shop. Until the entire front of the yard is protected by a smooth, straight surface, directing the flow of the stream, extensive deposits will be made in the irregularities of the shore-line, rendering constant dredging necessary.

The importance of good roads in a navy-yard is manifest. To any one acquainted with the location of Mare Island navy-yard, the impossibility of having good roads without paving or macadamizing is equally manifest. It is proposed to macadamize 5,140 feet in length, by an average width of 64 feet, of some of the principal and most used streets. In the rainy season the condition of these roads is simply abominable.

The sewers of this yard do not seem to have been constructed on any comprehensive system, but rather as necessity has arisen from time to time, or means were available. In one instance there is a sudden rise in grade of four inches, causing a damming back for more than two hundred feet. The entire sewerage system needs revision, if not rebuilding; at present they are a danger.

The crane or Bishop's derrick at this yard is in such a condition of decrepitude as to be unsafe for a lift of over twenty tons, and being a wooden structure, it would not, in my opinion, be good economy to repair it. The Board of Survey which reported upon this derrick in January, 1884, recommended that an iron crane, to be worked either by steam or hydraulic power, and of a capacity of one hundred tons, be erected on the site of the present disabled one. The necessity for this important tool cannot be overestimated. It is believed that at the present time there is neither crane nor derrick on the whole Pacific coast which will hoist a weight of twenty tons. An appropriation of \$40,000 is asked for to meet this pressing want.

NAVAL ASYLUM, PHILADELPHIA.

There were on the rolls July 1, 1883, the names of one hundred and eighty-nine beneficiaries. During the fiscal year ending June 30, 1884, thirty have been admitted, sixteen have died, three have been dropped for absence without leave, one has been discharged at his

own request, and one has been dismissed for misconduct, and two have been transferred to the Government Hospital for the Insane, leaving on the rolls July 1, 1884, the names of one hundred and ninety-six beneficiaries, an increase of seven.

The expenditures for the past fiscal year were \$57,817.80, and the estimates for that ending July 30, 1886, for care of buildings and grounds, support of beneficiaries, repairs, furniture, &c., 76,111. An additional estimate of \$22,000 is submitted for an addition to the main building.

The estimates for the ordinary expenses of the institution are very considerably increased in the estimates over the last year, in consequence of the increase in the number of beneficiaries, and to provide for an addition of one corporal to the house police force, for an increase of pay to the matron, steward, master-at-arms, house corporal, and also an increase of pocket money to beneficiaries, from \$1 to \$2 per month, and for an increase of three waiters. With the continual increase of inmates the work naturally increases in all departments of the institution, and the increased compensation asked for is not unreasonable.

The increase of three waitresses I deem absolutely essential. To wait upon nearly two hundred persons at table, many of whom are as helpless as children, is beyond the capacity of five women.

An increase is also estimated for under the head of "repairs."

If the verandas are not soon extensively repaired they will require to be rebuilt.

The walls of the main building are sadly in need of repairs.

I again respectfully call attention to the importance, if not necessity, of an addition to the Asylum building. I have on two former occasions endeavored to represent the importance of this addition. Its necessity is more apparent now. At this writing, every room available for the accommodation of the beneficiaries is occupied, and orders have recently been given to convert one of the reading-rooms into a dormitory. However inconvenient this may be to the present occupants, it is necessary, for it would be bad faith to the old veterans, who by long and faithful service have earned a right to a home here, to turn them from the door, disappointed, poverty-stricken, and friendless. I cannot better represent the necessity for this addition than by quoting from the annual report of Commodore Roe, the governor of the institution. He says:

There is no provision made here for beneficiaries or employes to wash their persons properly, and not a convenience for bathing in the house. This matter has caused manifold complaints, and the complaints are just. The cooks and waitresses, in the kitchen, working all day in a fierce heat, have no place in which to bathe or keep themselves properly clean. The female attendants occupy a corridor in which the men have their rooms, separated only by a wicker door, or gate, from the men. This is manifestly bad, and for the sake of decency should be remedied. The remedy for this catalogue of evils is only to be found in the erection of a new kitchen in the rear of the house and connected with it by a covered way. This building should include, besides a kitchen, wash-room, ironing-room, bath-room, and water-closets for the female attendants, on the lower floor, dormitories for the women, and a sewing-room for the matron. This will enable the mess-hall to be extended by removing the partition between it and the ironing-room, and the present wash-room may, with its heating fixtures, give a good bath-room for the beneficiaries, and the present kitchen be turned into store-rooms. The removal of the female attendants from the men's corridor will give additional room for the beneficiaries, for whose accommodation there is a constantly growing pressure.

In the matter of pensions, the law provides that in the case of a pensioner receiving the benefit of a "Soldiers' Home," he shall not forfeit his pension. In the Naval Asylum the pensioner forfeits his pension the moment he becomes an inmate, and for the time he remains an in-

mate; the forfeited pension being turned over to the hospital fund. This is an invidious distinction which, I think, should be abolished. If these old men are deprived of their pensions on entering the institution, it can only be for the reason that the pension fund is supporting them in a different way. Why, then, should these forfeited pensions go to swell the hospital fund (except that it is the law)? Why should they not revert to the pension fund, where it would seem they more properly belong, especially as this pension fund is built up on the war services rendered by the pensioners themselves?

CONTINGENT.

The sum required under this head, viz, \$25,000, is to meet unforeseen emergencies that may arise, calling for immediate outlay that has not been estimated for. It is a small but most necessary reserve.

Accompanying this report is an abstract of offers for supplies received for furnishing articles coming under the cognizance of the Bureau of Yards and Docks, made in conformity to act of Congress approved March 3, 1843.

The following estimates for the fiscal year ending June 30, 1886, are respectfully submitted, viz:

For support of Bureau of Yards and Docks.....	\$13,810 00
For general maintenance of yards and stations and contingent.....	450,299 00
For support of Naval Asylum.....	98,111 00
For repairs and preservation.....	838,200 00
For improvements at navy-yards	3,799,865 29
For civil establishment.....	45,929 75
Total estimate of yards and docks.....	5,246,205 04

Very respectfully, your obedient servant,
EDWARD T. NICHOLS,
Chief of Bureau.

Hon. WILLIAM E. CHANDLER,
Secretary of the Navy, Washington, D C.

REPORT OF THE CHIEF OF THE BUREAU OF EQUIPMENT
AND RECRUITING.

NAVY DEPARTMENT,
BUREAU OF EQUIPMENT AND RECRUITING,
Washington, October 24, 1884.

SIR: I have the honor to submit herewith the following report of the operations of this Bureau during the past fiscal year, with accompanying estimates for the fiscal year ending June 30, 1886.

During the past fiscal year 66 vessels have been either wholly or partially equipped, under cognizance of this Bureau, at the several navy-yards, involving an expenditure for labor of \$89,052.40, and for materials \$550,279.52, making a total of \$639,331.92.

The sum of \$896,000 is asked for under appropriation "Equipment of vessels," as actually necessary for the fitting out and keeping in repair the number of vessels contemplated to be kept in commission during the ensuing fiscal year. For the past two years it has been necessary to ask for a deficiency under this appropriation, Congress having failed

to appropriate the estimated amounts, and those which were appropriated being inadequate to the actual expenses of the service.

The amounts estimated for under the appropriations "Transportation and recruiting" and "Contingent" are each increased \$10,000 over the sums allowed under those appropriations for the past year. This increase is absolutely required to meet the necessities of the service, or deficiencies must inevitably arise. This has occurred for the past year, and the Bureau is thereby very much embarrassed, particularly as regards the transportation of men. Although the law allows transportation under the War and Navy Departments to be procured without adequate appropriation when the exigencies of the service require it, the Bureau is placed in an undesirable position as regards the parties by whom the transportation is furnished. Not having funds at disposal to pay for the necessary transportation of men when the service has been performed, the Bureau is obliged to ask the various companies to wait for a greater or less period of time for their money. Enlisted men must be transported when required, and experience for the last two years having proved the insufficiency of the sums appropriated for this service, this increase is respectfully submitted and urged.

Under appropriation "Increase of the Navy" the Bureau has estimated as follows:

To furnish complete equipment for prospective cruisers, as recommended by the Advisory Board, \$760,000.

For equipment of U. S. S. New York, now on the stocks at the navy-yard, New York, \$125,000.

For equipment of two vessels for the training squadron, to be composite clipper, bark-rigged sailing vessels, of 800 tons each, with auxiliary steam-power, \$75,000.

Under appropriation "Coasters' Harbor Island" the Bureau asked for \$41,000 for the necessary improvements of this station for the current year, but Congress appropriated only \$21,000, in consequence of which the Bureau was obliged to forego desirable improvements required for the training service.

In this connection the estimates are submitted for \$60,000 for improvements at the training station, Coasters' Harbor Island, which improvements have been recommended by the commanding officer of that station as absolutely necessary, and which meet the Bureau's approval in every particular.

TRAINING SHIPS.

In order to properly educate the apprentices, under the training system, it is of prime importance and positive necessity that the cruising training ships should be vessels of the most modern type and construction, that the system may be kept abreast of and the apprentices be familiar with all the improvements in the man-of-war of the present day. The training ships now in commission are in bad condition and require extensive and costly repairs. The time is not far distant when they will be entirely unseaworthy. In view of these facts the Bureau urgently recommends for your consideration the construction of the two composite sailing vessels, with auxiliary steam-power and lifting screws, as estimated for by the Bureau of Construction and Repair and for the equipment of which this Bureau has asked \$75,000 under appropriation "Increase of the Navy." The Bureau is of opinion that the building of these vessels would be a wise and economic measure, and obviate the constant repair of the old and almost obsolete cruising training ships.

COAL.

There have been purchased at home and abroad 56,624 tons of coal, costing, including freight and handling, \$408,526.42.

ROPEWALK.

The following cordage has been manufactured during the past fiscal year at the ropewalk, navy-yard, Boston, Mass.:

	Pounds.
Russia and American hemp rope	233, 154
Manila hemp rope.....	268, 545
Wire rope.....	14, 065
Hide rope.....	2, 628
Total	518, 392
Costing for materials	\$53, 505 72
Costing for labor.....	37, 943 93
Total	91, 449 65

HEMP.

There have been purchased—

	Quantity.	Value.
Manila hemp.....pounds..	202, 557	\$33, 491 88
American hemp.....tons..	7, 448	1, 645 13
Russia hemp.....do....	76	15, 018 88
Total		50, 155 89

FORGE AND ANCHOR, SMITH, AND CHAIN SHOPS AND ROLLING-MILL AT THE NAVY-YARD, WASHINGTON, D. C.

There have been manufactured in these shops during the past fiscal year—

Chain cable of various sizes.....fathoms..	2, 025
Forging, of iron and steel.....pounds..	23, 196
Iron cable links.....do....	97, 705
Steel cable links.....do....	7, 677
Bar iron.....do....	145, 040
Plate iron.....do....	9, 140
Hammered iron.....do....	1, 670

The Bureau intends to substitute steel for iron chains, if the report of tests now being made on board the Vandalia with some sample steel chain should warrant the adoption of the same.

GALLEY SHOP.

Eight new galleys have been manufactured, including cooking utensils, and extensive repairs have been made on 19 old galleys belonging to various vessels in commission.

SAIL LOFT, WASHINGTON NAVY-YARD.

There have been made, for the vessels requiring them, 84 new sails, besides awnings, hammocks, hammock cloths, clothes bags, and other miscellaneous sailwork.

ENLISTED MEN.

On the 30th June, 1884, there were in the Navy 8,947 men and apprentices, a small temporary excess of the total number allowed by law, and which occurred from unavoidable detention of one or two vessels in their arrival home from foreign stations. During the greater part of the year the number of men has been under the legal quota. The average number has not exceeded the statutory allowance.

The Bureau reiterates the recommendation of previous reports, and again submits that special legislation should be made for enlisting men for the Coast Survey, Fish Commission, and Naval Academy. The increasing demands of these establishments draw largely from the quota allowed at present for the Navy and cause much embarrassment. The small force remaining is not sufficient to properly man the regular cruising vessels. I would suggest that the force for these services be limited to 500 men, and be known as "auxiliaries for special service."

In connection with the enlistment of men, the Bureau strongly recommends that legislation be enacted with a view to allow men honorably discharged from the service to elect a home on any receiving ship for a period not exceeding three months from the date of their discharge; men so electing a home to be entitled to one ration per day to feed them while on board, and to be amenable to such regulations as the Bureau may establish while so residing. Such legislation would be conducive to the comfort and morals of the men, whose only homes are the vessels of the Navy. The service would be much benefited in the improved character of the *personnel*. The men would be able to escape much discomfort now experienced in the larger cities, where many of them are driven by necessity, after their discharge, into miserable and uncleanly boarding places.

In the interest of the seamen and marines of the Navy I would urgently request that section 2166 of the Revised Statutes, referring to aliens in the Army becoming citizens, be amended to include the Navy and Marine Corps.

I would also recommend that sections 4756 and 4759, Revised Statutes, be so amended as to apply to men who have served in the Navy as appointed petty officers.

APPRENTICES.

During the year there were 3,596 boys examined for enlistment as apprentices for the training service, of which number 2,120, or about 59 per cent., were rejected on account of various physical disqualifications. Of those qualified, 582 were either unable to satisfy the recruiting officers as to their character and habits, or failed to complete their shipment, making the number actually enlisted 894, a trifle less than 25 per cent. of the applicants. Sixty-nine apprentices have been discharged by reason of the expiration of their enlistments, and 171 on account of physical disability, inaptitude for the service, misconduct, &c.

The cruising training-ships Portsmouth, Jamestown, and Saratoga have been kept at sea, on practice service, with different detachments of apprentices, except while undergoing the necessary repairs or preparation for such service, and during the year 208 apprentices have been transferred to the cruising ships of the Navy, in addition to which, at its close, there were 70 *en route* to the European station to join the U. S. S. Lancaster and Quinnebaug.

On the 30th June, 1884, there were 490 apprentices serving on general cruising vessels, distributed as follows :

North Atlantic Station	142
South Atlantic Station	34
Pacific Station	73
European Station	53
Asiatic Station	188

And also 682 on board of the stationary and cruising training-ships, preparing for the general service.

The Bureau recommends that application be made for such legislation as will authorize the enlistment of 1,000 boys annually, instead of 750, the number at present allowed.

The Bureau most earnestly urge that Congress be asked to appropriate a sufficient sum of money to provide every man, boy, and *apprentice*, on enlistment in the Navy, with an outfit of clothing, the cost not to exceed \$50, thereby placing a sailor on similar footing with the soldier or marine, who are now not only furnished with an outfit when enlisted, but receive an *annual* allowance at the public expense and without any charge to them. At present the clothing outfit of a recruit for the *Navy* costs nearly, and sometimes quite, three months' pay, which he assumes as a debt to the Government; and in many instances the clothes are worn out before they are really paid for; and while such indebtedness exists the enlisted man of the Navy enjoys no privilege of liberty, nor can he draw any money for his own personal use. Naturally this system is regarded by sailors as oppressive, and tends to discouragement, and is often followed by desertion, with theft of outfit; and it is believed that if the enlisted persons of the Navy were placed upon a similar footing with those of the Army and Marine Corps, desertions would be less frequent and the *personnel* of the service would be very much improved.

Very respectfully, your obedient servant,

W. S. SCHLEY,
Chief of Bureau.

Hon. W. E. CHANDLER,
Secretary of the Navy, Washington, D. C.

REPORT OF THE CHIEF OF THE BUREAU OF NAVIGATION.

NAVY DEPARTMENT, BUREAU OF NAVIGATION,
November 1, 1884.

SIR: I have the honor to submit the following report of the Bureau of Navigation for the past year, together with the estimates for its support, and for the expenditures that will be necessary for the fiscal year ending June 30, 1886.

Included in this report and transmitted herewith are the reports and estimates of the several offices under its control.

NAVIGATION.

Compasses.—During the past year 145 compasses of different types have been repaired, inspected, and tested, the four-needle card which was adopted last year being used in all of them. These compasses have been issued to ships, and have given general satisfaction. The Greely Relief Expedition of 1884 was supplied with the improved compasses, and their behavior in high latitudes has been much commended. The

reports of the expedition contain a quantity of valuable matter relative to the variation of the compass in latitudes where few opportunities offer for such observations. This expedition was also supplied with dip-circles, magnetometers, and the necessary books, instructions, and blank forms, but its successful early termination prevented observations for magnetic force and dip.

The work of collecting data relative to the variation of the compass has been successfully continued during the year, the results of which are in course of preparation for publication.

The deviation of the compass in iron and steel ships has received the most careful attention, and Professional Paper No. 17, "The Magnetism of Iron and Steel Ships," has been prepared and is now in press. Professional Paper No. 18, on the deviations of the compass in vessels of the United States Navy, is nearly ready.

Preparations have been made for a careful examination of the magnetic character of the new steel vessels, and a compass station will be established in Narragansett Bay, in the vicinity of the "measured mile." In view of the probable necessity of compensating the compasses of these vessels, a binnacle for the purpose has been designed in the Bureau, and will be placed in the Dolphin for test.

The instruments for a compass-testing house are in possession of the Bureau, and an appropriation for the erection of a building passed both Houses of Congress during the last session, but is not available in consequence of the failure of the naval appropriation bill to become a law and the substitution therefor of an act "making temporary provision for the naval service."

A marked improvement has been apparent during the past year in both the character and number of the compass reports received from vessels in commission. Besides fulfilling their primary object of contributing to safe navigation, these compass reports afford explicit information regarding the variation of the compass in different localities.

Determination of longitudes.—The work of establishing secondary meridians of longitude on the west coast of Central and South America by means of the submarine cable has been completed.

A party of naval officers under Lieut. Commander C. H. Davis sailed from New York on the 20th of September, 1883, established stations at various points between La Libertad, San Salvador, and Valparaiso, Chili, and measured the differences of longitude between Valparaiso, Arica, Lima, Payta, Panama, and La Libertad. Measurements between La Libertad and Guatemala were made in co-operation with Mr. Miles Rock, of the Guatemala survey. From Valparaiso signals were exchanged upon several nights with Dr. B. A. Gould, director of the national observatory at Cordova, Argentine Republic, for the purpose of connecting the measurements made on the west coast of Central and South America with those made on the east coast of South America by naval officers under the direction of this Bureau in 1878 and 1879. The party returned to the United States in April last, and the observations are now being reduced and prepared for publication.

Navigation Supplies.—The electric plant for incandescent lighting supplied to the Trenton, beyond some slight defects in the insulation of the wires, which could not have been anticipated, has given great satisfaction, and has added materially to the comfort and health of the officers and crew.

The Atlanta, Boston, and Omaha are to be lighted by electricity. The plant for the Atlanta is to be supplied by the United States Electric Lighting Company of New York, that for the Boston by the Brush

Electric Company of Cleveland, and that for the Omaha by the Consolidated Electric Light Company of New York. In these vessels the defects referred to in the wiring of the Trenton will be remedied.

Additional information has been supplied for the libraries of the cruising ships, and I would again call attention to the importance of supplying, in convenient form, such professional matter as is essential to naval officers, and of value to the merchant marine and the ship-building interests, but which cannot now be published because of the inadequate appropriation for printing.

Department Library.—During the past year the work of classifying and cataloguing the books in the library has been continued, and important additions have been made to the collection. In order to put the library on a proper footing and to meet the requirements of the Department in the various branches of modern professional investigation, an increase in the annual appropriation is required, and an estimate therefor has accordingly been submitted.

Under existing law, no binding can be done for any Department of the Government except in plain sheep or cloth. Exceptions to this rule have been made in favor of the Congressional Library and the libraries of the Department of State, the Patent Office, and the Office of the Surgeon-General of the Army. The restriction upon the character of the binding for other Department libraries is harmful to the interests of the Government by making it impossible to keep sets of volumes in a uniform binding, while the saving in expense is so small as to be wholly out of proportion to the resulting disadvantages; and it is clear that the reasons which exist for the exceptions in favor of the libraries of the Department of State, the Patent Office, and the Surgeon-General's Office apply with equal force to those of the other Executive Departments.

Regulations for preventing collisions at sea.—The act entitled "An act to adopt the Revised International Regulations for preventing collisions at sea," which passed the House of Representatives at the last session of Congress, and which has been reported in the Senate, will, if it becomes a law, do away with the confusion which has existed in consequence of the difference between the laws of the United States and the regulations adopted by other maritime nations, and will tend to prevent collisions which are now likely to occur because of the delay in adopting such international regulations.

In this connection I desire to renew my recommendation to so amend rules 17 and 20, of section 4233 of the Revised Statutes of the United States, as to give deep-draught ships the right of way in deep and narrow channels in localities where light-draught vessels will not be liable to injury by using shoaler water.

HYDROGRAPHIC OFFICE.

The work of the Hydrographic Office has been confined to correcting the copper plates on hand, to the production of new charts from surveys by officers of the Navy, and to the preparation and publication of nautical information. The importance of additional surveys by this Government has been repeatedly urged by this Bureau, and I renew the recommendation contained in my annual reports for the past two years, that new surveys be made of portions of the north coast of South America and of the coast of the island of San Domingo. The charts of these localities are imperfect and incorrect, and until new surveys and examinations are made their use tends to increase the number of annual

shipwrecks and the consequent loss of life and property. To make such surveys and examinations vessels especially adapted for surveying are more economical than vessels of war. The steam whalers *Thetis* and *Bear*, purchased for the Greely Relief Expedition of 1884, would answer the purpose admirably, but a clause in the act appropriating for this expedition requires them to be sold. I would suggest, both in the interest of economy and efficiency, that this clause be repealed and these two ships be retained in the naval service for surveying purposes.

The hydrographic work of the geodetic and hydrographic survey of the Sandwich Islands, now being carried on by the Hawaiian Government, extends off shore to the 100-fathom line, and it is recommended that this Government shall continue the work by running lines of deep sea soundings for the purpose of determining whether the innumerable dangers which are now reported in the Pacific Ocean do or do not exist.

To facilitate the operation of the Hydrographic Office in giving information to the merchant marine and to others interested in nautical matters, branch offices have been established in the cities of Boston, New York, Philadelphia, Baltimore, New Orleans, and San Francisco. These offices, through the liberality of the maritime exchanges in the several cities, are located in the rooms occupied by these organizations. They are in charge of naval officers, and are supplied with charts, nautical works, lists of lights, and sailing directions corrected to date.

In continuation of the scheme proposed and begun by the late Lieutenant Maury, the first edition of the monthly Pilot Chart of the North Atlantic Ocean was issued December 1, 1883. The increased demand for these charts, which have been published regularly since that date, and issued on the first of each month, is conclusive proof of the necessity for, and value of, the publication.

The survey of the west coast of Central America has been completed as far south as San Juan del Sur, Nicaragua, by Commander Clark and the officers of the *Ranger*, and plates of the work are being engraved. The survey is now being continued south and east of the point above mentioned.

Professor Baird having placed the Fish Commission steamer *Albatross* at the disposal of the Navy Department during the winter months of 1883-'84, she was employed to examine the bottom of portions of the Caribbean Sea, the depths of which are unknown. In sounding across that sea a shoal was developed off the eastern end of Jamaica, to which the name Albatross Bank has been given. In addition to this work, which was highly successful and creditable to the officers of the *Albatross*, the exact position of San Antonio light, western end of the island of Cuba, was established, and the reported dangers off that point were proved not to exist.

The officers of the vessels in commission have contributed much valuable hydrographic information, which has been issued in the form of "Notices to Mariners," or utilized in the Hydrographic Office.

In this connection I desire to state that nautical men generally favor the adoption of a universal system of marks and buoys for channels and approaches to harbors. There can be no valid objection to adopting one general system in place of the many which now prevail, as the cost of such changes as might become necessary, were an International Congress to recommend a system, would be little more than that of the paint necessary for changing the color of buoys and marks.

NAVAL OBSERVATORY.

The report of the Superintendent of the Naval Observatory contains the details of the work performed with the several large instruments, of the transmission of time signals, of the introduction and adoption of a system for regulating the time in the several Executive Departments by controlling the clocks in the various offices from the Naval Observatory, and of the reduction of the various observations of the transit of Venus of 1882.

The appropriation for printing and binding is insufficient, and in consequence the results of the work of the Observatory cannot be published for the use of the public.

The necessity for an appropriation with which to begin the buildings for the new Naval Observatory upon the site selected by a commission appointed for the purpose and purchased by the Government, so often mentioned in previous reports, is more apparent than ever, in consequence of the dilapidated condition of the buildings and the unhealthy and improper location of the present Observatory, and I again urge the importance of an appropriation for that purpose.

NAUTICAL ALMANAC.

The report of the Superintendent shows that the work in preparing the annual volumes of the Nautical Almanac and Ephemeris for 1888 is well advanced, and gives a list of the papers which have been published in Astronomical Researches, supplementary to the Ephemeris.

The second volume of the "Atlantic Coaster's Nautical Almanac," that for 1885, has been issued, and the first volume of a "Pacific Coaster's Nautical Almanac" has been prepared and is now in press.

The computations and discussions of the observations and experiments for determining the velocity of light have been completed, and are being prepared for publication.

ESTIMATES.

I beg to invite your attention to the annual appropriations for this Bureau, which have steadily decreased in amount from \$192,500 for the fiscal year of 1866-'67, to \$100,000 for the year 1883-'84. Since the year 1866 the amount appropriated annually to carry on the work under the cognizance of this Bureau has been insufficient to supply our vessels with the best and most improved articles of navigation outfit. In consequence, however, of the quantity of supplies purchased during the civil war and remaining on hand at its close, cruising ships have been furnished with instruments for navigating, which, if not of the latest patterns, still answered the purpose for which they were purchased in the absence of better. But the supplies above mentioned have gradually been exhausted, or have become obsolete and have been sold as "unservicable" in compliance with the act of Congress approved August 5, 1882, which required all stores and supplies to be appraised, and those found to be unservicable to be sold.

I have submitted an estimate for \$130,000 under the head of "Navigation and navigation supplies," the amount, in my opinion, being necessary to properly administer the Bureau by providing the best and safest apparatus for navigating, better appliances for lighting ships, and the necessary professional information, without which it cannot be expected

that the officers and men of the Navy will keep pace with the changes which are constantly taking place.

Very respectfully, your obedient servant,

J. G. WALKER,
Chief of Bureau.

Hon. W. E. CHANDLER,
Secretary of the Navy.

UNITED STATES HYDROGRAPHIC OFFICE,
Washington, D. C., October 20, 1884.

SIR: As directed by the Bureau, I have the honor to submit the following report of the operations of this Office for the fiscal year ending June 30, 1884, and to make such recommendations for increasing its usefulness as have been suggested by the experience of the past year.

DRAGHTING AND ENGRAVING DIVISION.

The draughtsmen of this Division have been engaged in preparing for the engravers the surveys made by the *Ranger* on the west coast of Mexico; in drawing general sailing charts of the Atlantic Ocean and waters adjacent to the American continent; in compiling maps of the Arctic for the Greely Relief Board, and others for the Department; and in revising the charts already issued.

The information received from various sources, including foreign hydrographic offices, renders it necessary to keep a large force constantly employed in correcting these charts to date. The engravers have completed the chart of Samana Bay, mentioned in the report of last year, and have been constantly engaged in correcting the copper-plates of the charts already on issue, resulting from the continual revision of the manuscripts by the draughtsmen. The several plates in hands of outside engravers at the close of the last fiscal year are still unfinished, but will be completed in a few months.

It is proposed to make numerous changes in the methods in use in this Division, and, by systematizing the work as completely as possible, to employ the force more advantageously and economically. A scheme of charging all information as soon as it comes in against each chart affected will give a complete history of it at all times and facilitate the collection of data whenever it becomes necessary to revise it. By this plan each chart keeps an open account with all sources of information, as well as with the draughtsmen and engravers who work upon it.

A radical change is proposed in the compass, the degree graduations being given on a true compass. It would be well also to put much of the information which is now on the body of the chart in a tabulated form, so as to add to its clearness and facilitate its correction. Standards for borders, titles, and styles, size and arrangement of lettering will be adopted. In giving out contracts to engravers they will be obliged to make all work conform exactly to a system of topography, lettering and borders to be adopted, thus leaving nothing to individual tastes, which always causes undesirable variety.

PLATE AND PRINTING DIVISION.

The work of this Division has been materially increased by the greater demand for charts, 16,910 copies having been printed as against 12,180 of the preceding year, showing an increase of 39 per cent. A careful

study has been made of the latest improvements in copper-plate printing in the various Government offices and in private establishments. Every advantage has been taken by this Division to bring its work up to the highest standards, both as regards the use of ink and the most skillful manipulation of the plates. In accordance with my recommendation the work of electrotyping the copper-plates has been commenced, and will be continued. At the close of the year 23 altos and 9 bassos had been completed.

CHART DIVISION.

The force of this Division has been constantly employed in keeping the supply of charts corrected to date by hand. When changes are extensive the issue is temporarily suspended and the chart revised by the Division of Draughting and Engraving. Every ship of war, all agents, and all correspondents have been supplied with new copies whenever any important corrections have been made, and no chart has been sent from this office that has not embodied the very latest information to be obtained. This Division has also made an examination into the authenticity of reported dangers, and has computed distances required by the Bureau for the Fourth Auditor of the Treasury.

In the performance of its functions of filling all orders this division has issued charts to the following:

Ships of war	5,941
Merchant vessels, transmitting meteorological journals.....	1,570
Home correspondents and libraries.....	574
Foreign hydrographic offices.....	537
Agents, for sale	8,857
Branch hydrographic offices and other Government offices	7,886
Files of archives	814
Total	26,179

Four thousand three hundred and seventeen Coast and Geodetic Survey charts were supplied to ships of war.

ADMIRALTY CHART DIVISION.

The policy suggested of buying new editions of British Admiralty charts as fast as they appear, and not attempting to correct old editions by hand, has been rigorously carried out. This has been further extended by ordering from London to the ships of war direct the new edition, as soon as it appears, of any chart that may be on the chart-list of the squadron to which the ship belongs. Thirty per cent. of the charts on all the naval vessels have been replaced in this manner, and I take great satisfaction in stating that the ships are now kept supplied with the very latest hydrographic publications that the mails can get to them. The supply on the shelves is also of the latest date, and is kept corrected by hand for such information as does not require a new edition.

As the number of British Admiralty charts necessary to supplement those published by this office is 2,300, it can be seen that the small force of this Division is heavily taxed. The number of copies of each chart on the supply shelves has been largely reduced, experience having shown it to be best to keep as few as possible. The practice of buying these charts through an intermediate agent in London was changed at the beginning of the fiscal year, and the purchases have since been made direct from the agent of the British Admiralty, making thereby a saving of 25 per cent.

In addition to the regular duties of this Division, new chart-lists for each squadron on a more practical and systematic plan have been compiled, and will be printed during the present fiscal year.

DIVISION OF BOOKS.

During the year the books in this department of the office have been thoroughly overhauled and rearranged. Many which had become valueless on account of the changes since their publication have been removed from the issuing list and their places filled by other works.

A study has been made of the most suitable kind of binding for sea books, and the propriety of adopting certain colors for the bindings to designate those belonging to different stations has also been under consideration. Precautions have been taken to preserve the books from the ravages of insects by wrapping them in thick paper.

The force of the Division has been mainly employed in compiling sailing directions of Newfoundland and Labrador, Vol. II of the Caribbean Sea and Gulf of Mexico, and in correcting all sailing directions and light-lists furnished to Government vessels to date of issue.

NOTICE AND ARCHIVE DIVISION.

The policy of republishing without delay in Notices to Mariners all information coming into the office has been carried out as far as possible with the limited facilities for printing controlled by the Office, and at the same time the field for collecting information has been extended by establishing exchanges with every office in the world having an interest in hydrographic work. The number of official correspondents, including hydrographic offices, light-house boards, colonial and port departments, has been increased to 56. From these, 2,400 printed notices in ten different languages have been received, all of which have been translated by officers and republished. The edition of each Notice has been increased from 500 to 1,000 copies.

On January 1 the two publications known as Notices to Mariners and Hydrographic Notices were merged into one, called Notices to Mariners, and at the same time, after careful consideration, the system of showing true bearings in degrees was adopted, instead of magnetic bearings in points, as was previously the custom. Three hundred and eighty-seven Notices, containing 1,070 announcements, were issued during the year.

The light-lists compiled in this Division, numbering six volumes, and embracing the light-houses of the world, were corrected to July 1, sent to the printer, and mailed to the ships of war and to the agents for sale by the 20th of the month.

If these important aids to the navigator are to be of any use, such prompt action is always absolutely necessary, as the changes in lights in different parts of the world are so frequent and often so radical that editions should be issued annually, and when ready for printing should remain the shortest possible time in the hands of the printer.

METEOROLOGICAL DIVISION.

The work of this Division has included an extension of the number of observers of ocean meteorology, keeping track of old observers in the merchant marine, distributing blank journals, and examining and recording the data received from all sources. The set of new meteorological charts of the North Atlantic has been issued, and has been very

favorably received. These charts present the principal meteorological phenomena of the ocean in a graphic form for each month of the year. The method is so comprehensible that a mere inspection shows what meteorological conditions the mariner may expect in each five degrees square of the ocean surface. The data for these charts have been deduced from over two million hours of observations, extending over a period of forty years. The compilation of a similar set for the South Atlantic has been commenced, and is well advanced.

The energy of this Division has been directed principally, however, to the publishing of a monthly chart embodying the plan set forth in my report of last year and issued under the title of Pilot Chart of the North Atlantic Ocean. The first edition of this publication appeared December 1, 1883, and the issue has been continued on the first of each month since. The reception of this graphic bulletin of what has occurred on the sea during the month past and what may reasonably be expected during the coming month has been most flattering. The demand for it among seafaring men has steadily increased as it has become more widely known, and the interest it has awakened among ship-masters is indicated by the fact that several have telegraphed from Europe, at their own expense, any interesting information they may have encountered during the voyage across. It is known that vessels have taken the safe route indicated during the prevalence of icebergs when they would otherwise have taken a more dangerous course. The publication of this chart has also facilitated the study of the limits of the trade winds, the general location of water-spouts, and will be the means of defining eventually the approximate limits of fogs off the coast of the United States and Banks of Newfoundland. The sailing routes laid down have been followed with satisfactory results.

BRANCH OFFICES.

The work of the branches already established in Boston, New York, and Philadelphia having proved of such immediate and substantial benefit to the maritime community, the exchanges of other cities very soon asked for similar establishments, and accordingly offices were opened in Baltimore on December 14, 1883, in San Francisco February 1, 1884, and in New Orleans May 19, 1884. These six branch offices have more than realized all that was expected, and the most gratifying assurances of their increasing value are continually received from all interested, either directly or indirectly, in the seafaring public.

To enumerate some of the advantages that have accrued to the merchant marine: It has been found, in response to the invitations to all ship captains to bring their charts for verification and correction, that many use old editions (in one instance fifty years old), which have been discontinued for years, and they have been surprised to find that new editions showing quite different hydrographic conditions have long since supplanted them.

The Notices to Mariners, which had failed to reach the class most interested, have been most thoroughly disseminated, and their usefulness demonstrated so that the demand for them has been greatly increased.

The Pilot Chart, through the same channel, has obtained a still wider circulation, and, being a graphic representation of interesting and important nautical matters, has secured attention from those who have not time usually to investigate the same subjects presented in another way.

The importance of a central office which gathers this information

having been thus practically shown, as was expected, the voluntary contribution of information has been largely increased.

The interest of ship captains has been aroused under the stimulus of an immediate and practical acknowledgment of their work to make such examinations as they can of reported dangers of all kinds, of calling attention to inaccuracies in the charts, and of reporting immediately and definitely, and in such form as to be intelligible, all new matters relating to hydrography and cartography which come under their observation.

Many ship-masters go to the branch offices for information in regard to the prices of the publications of this office, and in numberless instances it has been found that they have been in the habit of paying more than the price authorized by the catalogue. This often deters them from buying late editions, to the manifest injury of their owners and to the prejudice of this Office. The doing away of this abuse has been an important factor in the increase of the sale of charts, which has been 57 per cent.; and through the same influence, acting in various ways, the general issue of charts has increased 116 per cent. The agents, who are in most instances the agents also of the Coast and Geodetic Survey, inform me that for similar reasons the sale of the Coast and Geodetic Survey publications has increased largely.

The collection of data for the study of the meteorology of the ocean has been facilitated in a remarkable degree. Many journals given out by this office that have long been lost sight of, as the masters frequently transfer them without notifying the office, have been traced and recovered, and valuable data, which have been withheld for a variety of reasons, have been secured. The officers, by explaining the practical value of observations and the common benefit that is sure to ensue, have induced many who were indifferent to contribute to this work. By careful comparisons or adjustment of instruments by means of the standards, with which all the offices are furnished, and a patient explanation of what is required, great interest has been aroused, and the distribution of blank meteorological journals to voluntary observers has increased 100 per cent., while the increase in the accuracy of the observations cannot be estimated.

The services of the officers have been called into use to determine all kinds of questions of a nautical nature by all branches of the community, and the presence of professional men always ready to investigate any subject relating to the different departments of this Office has been of great value to marine insurance companies, shipping agents, admiralty lawyers, and, in fact, to every branch of business connected either directly or indirectly with maritime affairs. The number of vessels boarded by the officers attached to the branch offices during the year is 4,256; barometers corrected or compared, 2,062; abstracts of logs made, 873; wrecks reported, 1,171; ice reported by 242 vessels, and information given to 2,286 different individuals.

GENERAL RECOMMENDATIONS.

As set forth in my report of last year, the primary work of this Office should be the publication of the results of original surveys by American officers. The vessels of the Navy when visiting unfrequented ports, or those which are imperfectly surveyed, could render most important service by sending their boats to run lines of soundings, and the officers could determine the positions of prominent points by astronomical observations, and fix the contour of the shore line. It is be-

lieved that this could be done frequently without interfering with the routine of a ship of war. Continuous surveying, however, should be done by vessels fitted for the purpose, and a few small steamers or schooners should be placed at the disposal of this Office to enable it to do its share of the hydrographic service demanded by the shipping interests of the country.

The only vessel engaged making surveys during the year was the *Ranger*, on the west coast of Mexico and Central America. The work done there, which extended from the Gulf of Fonseca to San Juan del Sur, has fully justified the outlay, and it is hoped that she will be kept in service indefinitely as a surveying vessel.

I cannot advocate too emphatically the necessity of this Government taking a share of the general hydrographic work of the world commensurate with its maritime interests and importance. Charts are issued continually which from the nature of their origin are known to be only indifferent approximations to what should be represented.

A very good hydrographic reconnaissance can be made in a short time at comparatively slight expense, and, when the danger to life and property is considered, there seems to be no excuse why parts of the earth visited by our merchant marine, or in the general track of trading-vessels, should be left in their present doubtful condition as regards hydrography.

The recommendation of previous hydrographers with regard to a survey of the Caroline and Marshall groups in the Pacific is most earnestly renewed. The consul of the United States at Hong-Kong, under date of July 21, 1884, reports to the Department of State the "loss of the American ship *Rainier* on the Marshall Islands, *owing to defective charts*, and urges that a survey be made of the Marshall, Caroline, and Pellew Islands." This has been repeatedly advocated by the Hydrographic Office, and when the position of these islands is considered, lying as they do in the trade-wind and westerly-current belt of the North Pacific, the natural highway of vessels bound to Japan, China, the Philippines, and the East Indies, the conviction as to what should be done becomes irresistible. In the North Pacific alone there are more than 3,000 reported dangers which do not exist or are incorrectly located. In many cases the same island has a half dozen different positions assigned to it by as many authorities, the maximum difference often amounting to 50 miles. This is a source of continual uncertainty to mariners in these waters which ought to be eliminated, now that the science of deep-sea sounding is so well developed. So little time is necessary to sound in great depths that an examination of any locality where a danger is supposed to exist could be very quickly made and the contour of the bed of the ocean absolutely determined.

Every vessel of the Navy should be provided with an apparatus and be required to sound wherever the charts show no depths, at distances of at least 20 miles. The method of examination by posting a lookout aloft while the vessel is in the vicinity of a danger is no longer of sufficient value to be accepted as final.

The Hawaiian Government is carrying on a hydrographic survey, to extend to a depth of 100 fathoms. The Government of the United States should continue the soundings to the other principal groups of the Pacific. It is suggested that the vessels of the Asiatic squadron now provided with sounding machines be required to use them when making passages from port to port, at distances of at least 20 miles apart.

My recommendations of last year with regard to new surveys of the

north coast of South America and the West Indies are most urgently renewed. Our commercial interests absolutely demand better charts of this general locality. A vessel should be sent to the Spanish Main this winter to collect data for the revision of the charts of that region, which are mostly based on old Spanish surveys dating back to 1794. The coast of South America, eastward of Trinidad, and the outlying islands should also be examined immediately, and I recommend that a vessel be sent there this winter to commence the work.

Watson's Rock, lying in latitude $40^{\circ} 17'$ north, longitude $53^{\circ} 22'$ west, in the path of North Atlantic traders, has been reported so many times that its existence ought to be settled definitely. A ship provided with a deep-sea apparatus should be sent next summer to sound out this locality and to develop the submarine mountain ridge that probably exists between the Azores and the Flemish Cap, as indicated by Milne Bank, and the numerous reported dangers lying between the two extremes.

The United States Fish Commission steamer Albatross, with a party composed entirely of naval officers, was placed at the disposal of the Bureau for the winter months, and this Office suggested a general plan of work, which was very skillfully and satisfactorily carried out.

During the cruise of the Challenger it was demonstrated that in submarine lakes the temperature is constant to the greatest depth, and the same as that of the ocean at the depth of the rim of the lake.

The investigations of the temperatures of the Gulf of Mexico by officers of the Navy had shown that below a depth of 800 fathoms the temperature is constant at $39\frac{1}{2}^{\circ}$, that being the normal temperature of the ocean at that depth in the region of the equatorial current. The conclusion was, therefore, that no lower temperature than $39\frac{1}{2}^{\circ}$ could be found in the Caribbean Sea, and consequently the passages into this sea could nowhere be deeper than 800 fathoms.

Another party of naval officers, during the years 1879 and 1880, in the Coast Survey steamer Blake, sounded out the passages into the Caribbean Sea, and, with one exception, discovered no greater depth on the ridge than 800 fathoms. This depth was found in one place only—the Windward Passage. The exception noted was a narrow gully of 1,100 fathoms, with a bottom temperature of 38° , leading into a basin of 2,740 fathoms between St. Thomas and St. Croix. As the temperature at 1,500 fathoms just south of Mona Passage was $39\frac{1}{2}^{\circ}$, there could be no doubt of the existence of a rim from St. Croix to Puerto Rico. The Albatross, therefore, was directed to examine this locality, and found, as was expected, the ridge, with 900 fathoms on it at the greatest depth, and a least temperature of $39\frac{1}{2}^{\circ}$. This work, so eminently within the province of the Navy and performed with so much success by the naval officers, should be continued, and I recommend that a ship be fitted out expressly to make investigations into ocean temperatures at all depths, and thus obtain data necessary to determine the actual circulation of the ocean.

The Albatross also carried several lines of soundings across the Caribbean Sea, and developed very thoroughly the contour of the bottom, besides determining the non-existence of several reported dangers. A reported shoal about 25 miles east of Jamaica was examined, and the soundings indicated quite an extensive bank, having from 17 to 20 fathoms on it. This has been called Albatross Bank. An examination was made of the harbor of Savanilla, and a new chart of this port, which is becoming an important trading point for American commerce, is now being prepared.

The position of Cape San Antonio, which has long been in doubt, was fixed by careful observations, and a number of soundings off this cape verified the report of the Tallapoosa that the dangers at that point do not exist. The work of this ship cannot be too highly commended, and the Bureau is congratulated on having secured so much important information.

Some advance has been made in the investigation of wave motion, and the study will be continued. A circular giving a detailed statement of what is required will be issued shortly, and it is recommended that the observers on the vessels of the Navy be required to give greater attention to this important subject.

In conclusion, I wish to call the attention of the Bureau to the zeal and intelligence of the officers attached to this Office and its branches. The former have shown at all times the liveliest interest in the work, and have been of the greatest assistance in the arduous labor of reorganization which has been going on during the year.

The establishment of the branch offices has, of necessity, been left very much to the officers sent to them. They have done well in all cases, and I cannot commend their services too heartily.

The thanks of the office are due particularly to the State Department, the Coast and Geodetic Survey, the Light-House Board, the Fish Commission, and all foreign hydrographic offices.

The maritime exchanges of the seaboard cities where the branches are located have rendered special assistance, and the newspapers of the coast have been uniformly kind in spreading the information sent out by this Office.

Very respectfully, your obedient servant,

J. R. BARTLETT,

Commander, U. S. Navy, in charge Hydrographic Office.

Commodore J. G. WALKER, U. S. N.,

Chief of Bureau of Navigation.

UNITED STATES NAVAL OBSERVATORY,

Washington, October 29, 1884.

SIR: In accordance with the Bureau's instructions, I have the honor to submit the report of the operation of this Observatory for the past year. I relieved Rear-Admiral Shufeldt as Superintendent on the 21st of February last. After having familiarized myself to some extent with the workings of the establishment, I became satisfied that its interests would be advanced by the organization of a Board consisting of the Superintendent, the senior professor of mathematics, and the senior line officer, whose duty it should be to meet from time to time and deliberate upon the conduct of the Observatory, and whose conclusions should form a basis of work to be done for each coming year. In conformity with these views, I issued the following general order:

GENERAL ORDER NO. 1.

The scope and character of the work to be done at the Naval Observatory shall be decided upon the recommendation of a Board to consist of the Superintendent, the senior professor, and the senior line officer.

Each officer in charge of a separate branch of work shall submit to the Superintendent annually—and more frequently if any changes be desired—a statement of the condition of the work under his charge and the work which he proposes for the

coming year. These statements will be submitted to the Board by the Superintendent for their opinion and criticism, and upon the conclusions thus reached the work shall be based.

The Board shall be convened for consultation as often as the Superintendent may desire, or at the request of any member. The clerk of the Observatory will act as secretary of the Board.

The work will for the present be considered as divided in the following manner:

- | | |
|--------------------------|-----------------------------------|
| 1. Great equatorial. | 5. Prime vertical. |
| 2. Transit circle. | 6. Mural circle. |
| 3. Transit instrument. | 7. Time (including chronometers). |
| 4. Nine-inch equatorial. | 8. The library. |

Each officer in charge of one of the above-named divisions will submit to the Superintendent before July 1 a detailed statement of the work proposed for the next six months, and hereafter a similar annual statement will be made on each 1st of January.

S. R. FRANKLIN,
Commodore, Superintendent.

NAVAL OBSERVATORY, *June 18, 1884.*

After the programme of work for the year commencing January 1, 1885, shall have been completed, I propose to have it printed and distributed amongst our correspondents, in order that other observatories, and those who are interested in the work of this one, may be thoroughly informed of what is done here, and also to prevent the unnecessary duplication of work which might be avoided by such information.

In order to systematize still further the working of the Observatory, I directed that reports should be handed to me every Monday morning by each officer in charge of a division, showing not only what had been done but how each person had been employed during the preceding week.

An effort has been made to establish at the Observatory a system by which all sextants and octants for issue to the Navy shall be examined and corrected, as far as practicable, and their errors, as well as those of instruments that are used for meteorological observations, be furnished to the navigators of vessels from this place, so that there would be a continuous record of every such instrument supplied by the Bureau of Navigation. I recommend that all such instruments as are found to be worthless be broken up, in order that they may be rendered incapable of doing harm to any one. As this work was discontinued when the officer in charge of it was detached, I respectfully recommend that some capable officer be ordered to the Observatory, to be assigned to this duty, who could, in addition thereto, be very usefully employed in photographing the sun each day at meridian, by which a record of the sun spots could be secured, and which, taken in connection with kindred observations at other observatories, would supply a mass of information upon this interesting and instructive subject which could not be otherwise than useful to all engaged in it.

I cannot too earnestly urge upon the Bureau the necessity of commencing the buildings for the new Observatory. The ground having been purchased and the plans made and approved, there seems to be no good reason why the construction should not begin. The present site is notoriously unhealthy, and the buildings are dilapidated and much in want of repair; and it would not be in the interest of economy to make any extensive repairs while the erection of new buildings is in contemplation. The delay is very prejudicial to this establishment in particular and to the cause of science in general. I respectfully request that if all the money cannot be appropriated for the purpose aforesaid at the coming session of Congress, a portion of it, at least, may be asked for, in order that this work, now so long delayed, may be begun.

I beg leave to reiterate the suggestion of my predecessor that there be appointed annually a Board of Visitors, to consist of a small number of scientific men, whose duty it should be to examine into the conduct of the Observatory, and make such suggestions as might add to its general usefulness. I think that by this means it would become better known and its work more highly appreciated.

THE 26-INCH EQUATORIAL.

This instrument has been in charge of Prof. A. Hall. Prof. S. J. Brown was assistant from October, 1883, to June, 1884. Lieut. W. H. Allen and Ensign J. A. Hoogewerff have rendered valuable assistance as computers. The instrument, the micrometer, and the driving-clock are in good order, and have been in constant use. For several years past the dome has been moved with difficulty. To obviate this a gas-engine of 4-horse power has recently been successfully connected with the turning machinery.

The work for the past year with this telescope consists of observations of the satellites of Neptune, Uranus, Saturn, and Mars, and of the observations of double stars. A few observations have been made for stellar parallax.

In the case of Uranus the observations were confined mostly to the two outer satellites, and it is proposed now to discontinue them, since the favorable time for determining the position of the orbit planes of these satellites has passed. In the autumn of 1883 Professor Brown made a drawing of Saturn and its rings.

As this instrument, since it was mounted in 1873, has been largely devoted to observing the faint satellites of the planets, a great number of such observations has been accumulated.

The laborious work of discussing the observations, correcting the orbits of the satellites, and determining the masses of the planets, was begun in August, 1883; and, owing chiefly to the able assistance of Lieutenant Allen and Ensign Hoogewerff, good progress has been made. Professor Brown also assisted in this work.

The observations of the satellites of Saturn have nearly all been reduced and discussed, and equations of condition have been formed and solved by the method of least squares. The final discussion of the results and the adjustment of the weights remain to be done. This preliminary work is also nearly completed for the outer satellite of Uranus for the years 1881, 1882, 1883, and 1884. It is proposed that this work of discussion shall be steadily continued until all the observations made with this instrument have been completely reduced and the final results obtained.

THE TRANSIT CIRCLE.

This instrument, in charge of Prof. J. R. Eastman, was employed on the same class of work as in 1882-'83. The assistants have been Assistant Astronomers A. N. Skinner, H. M. Paul, and W. C. Winlock, with Mr. W. M. Brown, jr., as computer. During the year ending October 17, 1884, the whole number of observations with the transit circle was 5,420. Of these, 98 were of the sun, 84 of the moon, 151 of the major planets, 45 of the minor planets, and 11 of comets.

The meteorological observations have been continued, as in former years, by the watchmen.

THE 9.6-INCH EQUATORIAL.

This instrument, in charge of Commander W. T. Sampson, assisted by Prof. Edgar Frisby, has been employed principally in observing comets and the minor planets. There were made 134 observations of comets and 406 of minor planets. All the observations have been reduced up to date, and most of them are ready for the printer. All occultations of stars by the moon have also been observed.

THE PRIME VERTICAL INSTRUMENT.

Observations with this instrument, which has remained in charge of Lieut. C. G. Bowman, with Ensign Hiero Taylor as assistant, were maintained until May, 1884, when some 1,020 observations had been taken. They were then discontinued, except that 13 observations of α Lyrae were made in June and July, at the time of maximum parallax. During May and June both observers were employed in deducing clock corrections from the observations of the meridian transit, with whose sidereal clock the Howard clock, used in connection with the prime vertical, had been constantly compared. They also made with the level-trier various observations to determine the value of a division of the level, and collected from all available catalogues data to deduce the mean places and proper motions of all stars used. It is proposed, however, to accept those already discussed by either Auwers or Boss, which will include some twenty of the stars observed, and to carry on the reductions, at first, of certain of the latter stars which have been most frequently observed.

Lieutenant Bowman having been transferred to the charge of the meridian transit instrument, the computations are being completed by Ensign Taylor.

THE MERIDIAN TRANSIT INSTRUMENT.

The meridian transit remained in charge of Lieut. U. R. Harris, who was assisted by Lieut. E. C. Pendleton until July last, when the former was detached, and the latter relieved Lieut. E. K. Moore of the charge of the chronometers and time service. Since that time Lieutenant Bowman has been in charge of the instrument, assisted by Lieut. John Garvin. The instrument has been used primarily to determine clock corrections in connection with the daily time service. In addition, special time signals have been sent out at the request of the Coast Survey, and observations for the right ascensions of the sun, moon, and major planets have been made. These latter have been reduced to the beginning of the calendar year.

The transit instrument is in good order, and the standard mean-time clock has performed very well. The sidereal clock has done very indifferently, but as chronographic comparisons are invariably made whenever observations are taken, no serious inconvenience has been caused.

THE MURAL CIRCLE.

This instrument is in charge of Prof. S. J. Brown. Mr. W. F. Gardner, the instrument-maker of the Observatory, during the summer put it in thorough condition, and Professor Brown is at present engaged in general instrumental adjustments, preparatory to making observations for declination upon certain stars, some 2,700 in number, a list of which has been prepared by him.

CHRONOMETERS AND TIME SERVICE.

This division is in charge of Lient. E. C. Pendleton. There are at present in the chronometer-room 235 chronometers, of which 18 are ready for issue, 31 are on trial, 59 require repairs, and 127 are condemned to be used only as "backs." Thirty-nine have been received from naval vessels and other sources, 6 were purchased after competitive trial, and 1 was received from William Bond & Son, in exchange for an old one of their make. Four pocket chronometers, 1 pocket half-chronometer, and 1 watch were also purchased after competitive trial. Sixty chronometers were issued to naval vessels and stations, 50 were sent to be cleaned and repaired, 55 were returned cleaned and repaired, and there are now 15 undergoing repair at the establishments of Messrs. Negus and Messrs. Bliss, in New York, and Messrs. Bond, in Boston.

Upon the adoption of what is known as "standard time," the following circular was issued :

DESCRIPTION OF TIME SIGNALS.

(*Seventy-fifth meridian, mean time.*)

[To be sent out by the United States Naval Observatory on and after November 18, 1883.]

The signals to be sent out by the Observatory are wholly automatic, and consist of a series of short *makes*, produced in an open telegraphic circuit by the beats of a mean-time clock, the pendulum closing the circuit at each beat.

The signals begin at 11 hours 56 minutes 45 seconds and cease at 12 hours, seventy-fifth meridian mean time. During that interval there is a *make* at the beginning of every second, except that in each minute the makes corresponding to the twenty-ninth second, and to the fifty-fifth, fifty-sixth, fifty-seventh, fifty-eighth, and fifty-ninth seconds, are omitted. Thus, the first make after the pause of five seconds always marks the beginning of a minute, and the first make after the pause of one second marks thirty seconds. In order to distinguish the last minute and give time to manipulate switches to time-balls, control-clocks, &c., the makes cease after 11 hours 59 minutes, 50 seconds and until 12 hours, when there is a single make, and the signals cease.

When these signals are received at points where the time of the ninetieth meridian is used, they will give the time from 10 hours 56 minutes 45 seconds to 11 hours, or just one hour earlier than when representing seventy-fifth meridian time; otherwise the signals will be read in the manner described above.

Seventy-fifth meridian time is 8 minutes 12.09 seconds earlier than Washington time.

UNITED STATES NAVAL OBSERVATORY,
November 10, 1883.

The transmitting clock of the Observatory was set to the seventy-fifth meridian time, and the time-signals given to the telegraph companies since that date have been in conformity with the above circular.

Owing to the increased demand for the time-signals, the Baltimore and Ohio Telegraph Company looped two of its main circuits into the Observatory, and the Signal Service looped one. The facilities of the Observatory for transmitting time-signals were very much extended, the apparatus being nearly all reconstructed and rearranged, and the signals are now transmitted from the Observatory over eleven wires. The District of Columbia authorities did not adopt standard time until March 1, 1884, and up to that date the Observatory ball was dropped at noon of Washington mean time, and the fire-alarm bells of the city were struck at 7 a. m., 12 m., and 6 p. m. of the same time. Since that date the ball has been dropped at noon of the seventy-fifth meridian,

and the fire-bells struck at the same hours of seventy-fifth meridian time.

In March last the honorable Secretary of the Navy, at the request of the Superintendent, submitted to the heads of the several Departments the proposition to place in the more important offices of the Government, including the Executive Mansion and the Capitol, a clock that should be regulated and controlled every day from the Observatory, which establishment should be responsible for the determination and transmission of correct time.

This plan having been generally approved, and the Departments having agreed to bear each their proportion of the expense of an insulated electric circuit to connect the Observatory with the different buildings, connection was made with the following offices, the Superintendent of Public Buildings and Grounds extending every facility in his power: Office of Commissioner of Public Buildings, War Department, Navy Department, Executive Mansion, National Museum, Smithsonian Institution, Agricultural Department, Bureau of Engraving and Printing, Capitol (Senate wing), Government Printing Office, Department of the Interior, Post-Office Department, City Post-Office, Pension Office (Twelfth street northwest) Pension Office (Thirteenth street northwest), Office of Geological Survey, Quartermaster-General's Office, Treasury Department, Department of Justice, Surgeon General's Office.

In each of these offices is a clock which is corrected daily at noon of standard time by means of an automatic attachment (the invention of Mr. W. F. Garduer, the instrument-maker of the Observatory), actuated by the electric current which makes the signal that drops the time-balls at the Observatory and on the Western Union Telegraph Company's building in New York.

THE LIBRARY.

The library is in charge of Lieut. John C. Wilson. The annual volumes for 1879 and 1880, and Appendix I, 1880, have been received and distributed. Our list of exchanges contains 433 foreign and 464 domestic addresses of scientific institutions and individuals engaged in scientific researches.

The library contains about 12,800 volumes, besides a large number of pamphlets, the accessions during the year being as follows:

By purchase	462
By exchange	450
By gift	107
Public documents	36
Total	1,055
Volumes	725
Pamphlets	330

A manuscript catalogue of the library has been completed to May 1, 1884, and is now ready for printing.

PRINTING AND BINDING.

Owing to the limited amount of the printing fund of the Department, great difficulty is experienced in obtaining the publications of the Observatory from the Public Printer with any degree of promptness. The volume for 1880, which it was expected would be ready by the 1st of January, 1884, was not received until October; the volume for 1881 has been ready for several months, but for want of funds has not yet been

tonched by the printer. For the same reason publications of a professional character which are in frequent use and require more substantial binding cannot be sent to the Government bindery. In view of these facts, and of the necessity which exists for promptness in these matters, I would suggest that Congress be urged to appropriate \$5,000 annually for the printing and binding for the Observatory until the work in arrears be brought up. When that shall have been done a smaller sum will enable us to carry on the work of each year.

TRANSIT OF VENUS OF DECEMBER 6, 1882.

The work of reducing the various observations of this transit has been carried on during the year, under the immediate supervision of Prof. William Harkness, assisted by Messrs. R. S. Woodward, A. S. Flint, Emil Wiessner, and A. Hall, jr. The details of the work will be found in the appended report of Professor Harkness.

MISCELLANEOUS.

During the year 1,484 persons visited the Observatory by day, and 1,344 permits were issued for night visitors, for whose accommodation the small equatorial is set apart.

A record has been kept by the various observers and the watchmen of the condition of the sky as regards seeing. From this it appears that but 126 nights were clear enough for observing, and of these but 38 are recorded as good, the remaining 88 being poor or indifferent.

I respectfully urge that the estimate made for three additional computers and for the increase in the salaries of the assistant astronomers and the instrument-maker receive the favorable consideration of the Bureau. Inasmuch as the average term of service of the assistant astronomers is but three years, owing to the fact that more lucrative positions are offered to them, it would seem to be in the interest of economy that these gentlemen should be retained in the service of the Observatory by paying them such salaries as can be obtained by them from other parties, rather than to permit their trained services to be lost. The pay now received by these gentlemen is not an adequate remuneration for the services they render. The instrument-maker has a responsible position, and his familiarity with the requirements of the place, together with his attainments and long service, merit the increase which is submitted.

Very respectfully,

S. R. FRANKLIN,
Commodore, Superintendent.

Commodore J. G. WALKER, U. S. N.,
*Chief of Bureau of Navigation,
Navy Department.*

NAUTICAL ALMANAC OFFICE, BUREAU OF NAVIGATION,
Washington, D. C., October 25, 1884.

SIR: I have the honor to submit the following report of the operations of this office during the past year:

Printing.—The American Nautical Almanac for the year 1887 was issued from the press in January, 1884, and the large Ephemeris for the same year in April, 1884. The American Coaster's Nautical Almanac for 1884 was issued in March, 1884. The corresponding publication

for 1885 was issued in October, 1884, under the title of "The Atlantic Coaster's Nautical Almanac."

Of the Almanac and the Ephemeris for 1888, 387 pages are in type, and the printing and computations are all up to or ahead of time.

SALE AND DISTRIBUTION.

During the fiscal year ending June 30, 1884, the sale and distribution of publications was as shown in the following table:

Description.	Sold.	Distributed.
American Ephemeris.....	387	824
American Nautical Almanac.....	2, 076	82
Coaster's Nautical Almanac.....	373	106

This statement is incomplete with respect to the American Nautical Almanac, owing to the final returns not having been received from the San Francisco agency. The amount realized from the sales was \$1,015.64, which, as required by law, was deposited in the Treasury to the credit of the appropriation for public printing and binding.

COASTER'S NAUTICAL ALMANAC.

In my last annual report I called attention of the Bureau to the practice among our coasting vessels of using privately printed nautical almanacs instead of the Government publications. An inquiry into the circumstances of the case showed that this practice arose partly from the convenience which the masters of such vessels found in having all their astronomical and nautical information condensed into a single cheap pamphlet and partly from the almanacs being suggested to them by dealers. The evil was all the greater in that these publications were issued, not so much to supply a demand for almanacs on the part of navigators, as for advertising purposes; and the great number of dealers who thus deemed it necessary to engage in issuing almanacs rendered the competition a positive expense and burden from which it was believed most of them would be glad to be relieved. With the approval of the Bureau the experiment was therefore tried of issuing an American Coaster's Almanac containing, not only the astronomical matter for ordinary purposes, but tide-tables, list of light-houses, and other material necessary to the navigator on the Atlantic coast. The acknowledgments of the office are due to the Superintendent of the Coast and Geodetic Survey and to the Light-House Board for their acquiescence in the project, which involved the condensation and re-printing of data issued by them.

Believing that such a publication was yet more needed on the Pacific coast, "The Pacific Coaster's Nautical Almanac" is now in press and is expected to be ready in November. To distinguish it from this new publication, the almanac for the Atlantic coast is entitled "The Atlantic Coaster's Nautical Almanac."

METHODS OF SALE.

For a number of years the nautical publications of the office were sold at a single agency in each of the principal cities, where a discount of 20 per cent. was allowed to dealers, while the agent himself was allowed 20 per cent. more for his share in the transaction. Practically this amounted to giving some one dealer in each city a monopoly of the

privilege of obtaining the larger discount, and frequently led to complaint by other dealers of their inability to obtain supplies. Desiring to avoid all causes of complaint, a system has recently been adopted which gives all dealers the right to purchase nautical publications from the office at agents' prices by paying in advance, and removes all restrictions upon the number of agencies. This system involves considerable additional labor to the office, owing to the multiplicity of small accounts thus arising, and the trouble is aggravated by occasional delay and carelessness on the part of some agents in making their returns. It is hoped that with time these drawbacks will be remedied. Should this hope not be realized, it will probably be necessary to adopt some plan of having a depot in each of the principal seaports from which all the dealers in the vicinity can be supplied at wholesale prices. The only difficulty in the way of such a plan is to provide for the reception of and accountability for the payments received at the depot.

ASTRONOMICAL RESEARCHES.

During the past twelve months the following publications of astronomical papers supplementary to the Ephemeris have been made :

Volume II, Part I, Coefficients for Correcting Planetary Elements, by Simon Newcomb, assisted by John Meier.

Volume II, Part II, Investigations of Corrections to Greenwich Planetary Observations, 1762 to 1830, by Truman Henry Safford.

Volume III, Part I, Development of the Perturbative Function, by Simon Newcomb.

Volume III, Part II, Inequalities of the Motion of the Moon due to the Ellipticity of the Earth, by George W. Hill.

Volume III, Part III, On the Motion of Hyperion; a new case in Celestial Mechanics, by Simon Newcomb.

The first three papers give tables and data for the calculations necessary for the new tables of the planets. The work which is now being pushed forward most vigorously is that upon the four interior planets, from Mercury to Mars, which should be completed first. It is divided into two operations (1), the purely mathematical computation of the inequalities in the motion of each planet produced by the action of all the other planets, and (2) the correction of the results thus obtained so as to represent all the best observations. The first part of the work is being done in duplicate by Mr. Prentiss and Mr. Corrigan, and will, I hope, be completed during the present fiscal year. The reduction of the observations has only been fairly commenced, but will be pushed on as rapidly as the limited sum available will permit.

Theory of Jupiter and Saturn.—Mr. Hill's work on the perturbations of these two planets has progressed with little interruption, and will, it is hoped, be completed before the next annual report.

Mass of Jupiter.—This very necessary element in the tables of nearly all the planets is to be determined from the motion of the small planet Polyhymnia. The heavy part of the calculations necessary for this purpose are nearly done, and it only remains to correct the results from observations. It is intended to bring the work up to date as soon as possible, but to defer its final completion and publication until more observations can be made and used.

Velocity of light.—The computation and discussion of the velocity of light have long been completed, and are now being prepared for the

press. The conclusion is that the velocity in the celestial spaces is 299,860 kilometres per second.

Very respectfully, your obedient servant,

S. NEWCOMB,
Superintendent Nautical Almanac Office.

REPORT OF CHIEF OF THE BUREAU OF CONSTRUCTION AND REPAIR.

NAVY DEPARTMENT,
BUREAU OF CONSTRUCTION AND REPAIR,
Washington, D. C., November 7, 1884.

SIR: In obedience to the Department's instructions of the 25th ultimo, I have the honor to submit my annual report for the fiscal year ended June 30, 1884, showing work performed and the amounts expended, with estimates of the amounts required for the purposes of this Bureau for the fiscal year ending June 30, 1886.

The estimates of the expenses of this Bureau, as given in the statement marked A, are in accordance with existing laws.

The recommendations on this statement for increase of salary of the chief clerk of the Bureau, the draughtsman, and the assistant messenger, are respectfully submitted to your favorable consideration.

The chief clerk, under the law, acts as chief of the bureau in the absence of that officer, and must be competent to take charge of the Bureau. His duties are arduous, and fully deserve the salary herein estimated (viz, \$2,250), which is the same as that paid to chief clerks in other Departments who are authorized to act in the absence of their chiefs.

The draughtsman has charge of the drawing room, and his duties are certainly fully as arduous and important as those of the draughtsman of the Bureau of Steam Engineering, who is paid \$2,250 per annum.

The recommendation for three additional draughtsmen is also respectfully submitted.

This Bureau is now allowed only two draughtsmen. In order to carry on the work of designing new ships, it is absolutely and indispensably necessary that the additional force asked for be allowed.

The estimate for the pay of clerks and writers at the several navy-yards, in statement marked E, is for services which are indispensable for the proper and systematic prosecution of the work which is to be done at the yards by this Bureau. Each and every clerk and writer has specific duties to perform, which are not affected by the quantity of work doing in the yard. The same number of blanks are to be filled and the same number of reports have to be made and sent to the Bureau for its information, without regard to the quantity of work on hand.

The estimate marked B is for the general repair of vessels at navy-yards and on foreign stations, purchase of stores, materials, machinery, rights of patented articles and tools of all kinds; preservation of materials and stores, and for the general care and protection of the Navy in the line of construction and repair.

The estimate marked C is for completing the four double-turreted

monitors *Puritan*, *Terror*, *Amphitrite*, and *Monadnock*. The amount required is \$2,923,654.62, divided as follows:

<i>Puritan</i>	\$955,341 56
<i>Terror</i>	627,287 68
<i>Amphitrite</i>	639,583 68
<i>Monadnock</i>	701,441 70

The estimate marked D is for "increase of the Navy," and provides for building seven new steel vessels, for labor in building two composite clipper barque-rigged sailing vessels for the Training Squadron, for completing the *New York* at the Brooklyn navy-yard, and for extra tools required in navy-yards for building iron and steel vessels. The amount asked for is \$4,961,000.

The sloop of war *Mohican* was launched at the navy-yard at Mare Island, Cal., December 27, 1883, and can be completed for sea in about ninety working days, at an expense of about \$45,000.

This vessel is of the *Marion* and *Swatara* class, which have proved very successful and satisfactory vessels in all respects. If they were armed with guns of modern type, they would be as good vessels of their class as are owned by any nation. Although the *Mohican* is built of wood, having a live-oak frame, she will have all the modern improvements, large air-ports of the Wilson patent, ventilating apparatus complete in all respects, and will be lighted with electricity. She is 216 feet between perpendiculars, 38 feet breadth of beam, is barque-rigged, having a sail surface of 14,150 square feet in her ten principal sails. She is designed to carry an armament consisting of one 8-inch rifle (muzzle-loader), six 9-inch, and one 60-pounder, or their equivalent weight in modern breech-loading guns. Her draught of water, when ready for sea, is intended to be 14 feet 6 inches forward and 17 feet 6 inches aft, with a corresponding displacement of 1,900 tons. With a steam capstan and a modern battery, this ship would have all the improvements of the latest modern steel cruisers, would be a valuable acquisition to the Navy, and would do good service until our wooden vessels can be replaced by those having steel hulls.

The Bureau strongly recommends the completion of the frigate *New York* at the Brooklyn navy-yard. This vessel has been on the stocks in one of the ship-houses since 1865; and from the fact that she was in frame before work was suspended on her, and was neither ceiled nor planked, the air has freely circulated through her timbers, and to-day they are as hard as bone and probably in better condition than any frame timbers ever put in a ship. If completed with materials that have been preserved by the Thilmany process for preserving ship timber, she would make a useful and most efficient ship of her class for twenty years. Although designed in 1865 she is an exceedingly fine model, and if finished will give us a first-class flag-ship. She can carry a battery as heavy and equally as well arranged for head and stern fire as the new cruiser *Chicago* has. Her length on the mean load line is 315 feet, extreme breadth of beam, 47 feet; depth from lower edge of rabbet of keel to lower port sill on gun deck, 25 feet 11 inches. She is designed to have a ship's rig, having 24,000 square feet of sail surface in her ten principal sails. Her displacement at a draught of 18 feet 9 inches forward, and 21 feet 5 inches aft, would be equal to 4,527 tons, and her lowest port sill on the gun deck would be 8 feet above water. The plans for finishing this vessel are in such a condition that they could be completed in a very short time, and the work on her, if authorized, could be pushed to completion and the vessel put afloat within six months from the time it is resumed. To permit of doing this work without having to draw so

heavily upon the regular appropriations for construction and repair, the Bureau has estimated for \$400,000, which it is thought will be sufficient to complete her.

The old sailing sloops of war, *Saratoga*, *Jamestown*, and *Portsmouth*, are rapidly approaching such a condition that, ere long, they will require larger expenditures of money for their repair than the law allows. The loss of these vessels would leave the service without suitable training ships. To meet this emergency I respectfully recommend the construction, at an early day, of two composite built, auxiliary steam power, barque-rigged clipper ships, of fine models, 800 tons displacement, and light sparred, designed expressly for training boys for the naval service. For this purpose I have estimated for an appropriation of \$250,000.

The armor for the turrets, pilot-houses, and armored stack for the double-turreted monitor *Miantonomoh*, contracted for by this Bureau, through William H. Wallace & Co., with Messrs. John Brown & Co., of the Cyclops Works, and Messrs. Charles Cammell & Co., of Sheffield, England, have all been delivered at the Brooklyn navy-yard, except one port plate and the pilot-house plates, the former having been rejected and a new one making to replace it. The work of altering the decks and internal arrangements of the vessel to accommodate the new roller-base turrets is well in hand at the Brooklyn yard, and the turrets are in course of erection in the iron-plating shop of that yard.

The Bureau has estimated for the necessary amount of money to complete the work, in construction department, on the double-turreted monitors *Puritan*, *Amphitrite*, *Terror*, and *Monadnock*, and trusts that Congress will appropriate the amount asked for (\$2,923,654.62), that these vessels may be completed. While there has been an appropriation made to put in the machinery and boilers, the work under this Bureau remains at a standstill. When it is considered how intimately connected the work of the Bureau having charge of the machinery is with that of this Bureau, it is difficult to conceive how the contract for machinery can be completed without at the same time doing some work on the hull, which is almost directly connected with the work of putting in boilers and machinery, and which should be carried on at the same time.

The pumps of all descriptions, for pumping and draining purposes, as also the ventilating system, have been included in the contract for steam machinery for the *Puritan* (and I presume for the other vessels), and yet it is a fact that before this is completed there is a large amount of work coming under the cognizance of this Bureau which must be done, while there is no authority of law to do it, and no funds to pay for it if ordered.

I cannot too strongly urge the completion of these vessels in all respects at an early day, as they will afford as good vessels of their class as are owned by any nation, and, in my opinion, the best type of coast and harbor defense vessels in existence to-day. It will take at least a year to obtain their side and turret armor after it is authorized; and under existing circumstances it would have to come from abroad, as there are no manufacturers of compound armor in this country, and probably no establishment that would be willing to invest such a large amount of money as would be required to obtain the necessary plant for doing the work for these four vessels with little or no prospect for more work of the same kind in the future. It therefore seems very necessary that money for armor, if for nothing more, should be appropriated at an early day, in order that contracts for securing it may be made with as little delay as possible. The completion of these monitors should no longer be delayed. When completed we will have five splendid coast

and harbor defense iron-clads. Should occasion require it, they can be sent to distant points; their seaworthiness has been well tested in the past.

Under the Department's instructions of the 8th October, ultimo, the Bureau has now in process of preparation the plans for the hulls of the following-described new steel vessels, as called for by the Naval Advisory Board:

	3,000 ton cruiser.	Heavily armed gun- boat.	Heavily armed gun- boat.	Armed despatch boat.	Light cruising gunboat.	Armed ram.
Light between perpen- diculars.	290'	220'	220'	250'	175'	200'
Extreme breadth	42'	35'	35'	35'	28' 6"	47'
Mean draft of water	16' 10"	13' 10"	13' 10"	14' 3"	10'	17'
Load displacement.....	3,100	1,600	1,600	1,550	800	3,000
Speed knots. { Smooth water. Sea speed.	14	14	14	16	11	17
	13	13	13		10	
Main battery	Four 6 in. (in sponsons).	Two 8 in. (in centre).	One 10 in. (in center for'dl).	2.83" S.		4.37" S.
	Four 5 in. (in broadside).	Two 5 in. (in sponsons).	One 6 in. (in center aft).	6.37" S.H.P.	Six 5 in.	4 Gatli'gs.
	Two 5 in. (in bow ports).		Two 5 in. in sponsons).	6 47" Rev. 3.37" S.L.P.		
Secondary battery	One 5 in. (in stern).			One short Gatling.		
	2.57" S.				2.37" R.	
	4.47" R.				1.37" S.	
	2.37" R.					
Rig	2.87" S.				1 Gatling.	
	2 Gatlings.					
Rig	Bark.	Hermaphro- dite.	Hermaphro- dite.	Barkentine.	Barken- tine.	
Area of plain sail.....	11,000 sq. ft.	8,000 sq. ft.	8,000 sq. ft.	8,000 sq. ft.	5,000sq. ft.	
Coal capacity	500 tons.	250 tons.	250 tons.	300 tons.	150 tons.	1(*)
L. H. power	3,500	1,600	1,600	2,200	650	4,000
Screws. { Single or twin.	Twin.	Twin.	Twin.	Single.	Single.	Twin.
	Diameter	14' 0"	11' 6"	14' 0"	9' 0"	14' 0"
	Pitch	19' 0"	16' 6"	24' 0"	12' 9"	21' 0"

* Not stated.

While it is generally supposed that our navy-yards are not in condition to build steel vessels, and that it would entail a very large expenditure of money to obtain the necessary tools, it is nevertheless a fact that, with probably the exceptions of a few improved tools required for the preparation of plates, beams, and angles, and the erection of furnaces for heating angle-irons and plates, there is no private establishment in this country, carrying on iron or steel ship-building, which has better facilities for such work than can be found in our navy-yards, and few indeed, if any, that can compare with them in all respects.

The Government has means and appliances for doing work which no private establishment could afford, and the character of the work done in our navy-yards has never been questioned. During our late civil war the Government called to its assistance every available private establishment in the country which was capable of building or repairing a vessel, or of converting a merchant vessel into an armed vessel for blockade or cruising purposes, but which, together with every navy-yard worked to its utmost capacity, were unable to meet the demands for work with the dispatch required. Had it been a foreign war, with our vessels returning from sea badly disabled in action and requiring prompt repair, the results would undoubtedly have been terribly disastrous, owing to lack of dry-docks, materials, and appliances of every kind.

At the present time we have but few private establishments which, in the event of war, could commence and carry on, with any degree of rapidity, the building of steel ships, while but one navy-yard is, or soon will be, in condition to do such work. In order to be able to meet any trouble which may arise in the future, and which all nations are liable to, it seems that the wisest and certainly the most economical course for this Government to pursue is, to immediately equip its navy-yards with the necessary tools and plant for building such steel armored or unarmored vessels as the necessities of the service may demand; and for this purpose the Bureau has asked that it be assisted in this work by the appropriation of \$150,000.

During the past year the *Intrepid*, a twin-screw iron vessel of 1,150 tons displacement, originally built for an armored torpedo-boat, has been hauled out on the slip where the frigate *Trenton* was built, at the Brooklyn navy-yard, her armor removed, and the vessel cut down, with a view to converting her into a gunboat for service in the Chinese squadron. A strong and substantial shed has been erected alongside this ship, in one end of which an angle and plate iron furnace has been built and floors laid. The necessary work of erecting the tools now available, and such as have been purchased during the year, will soon be completed, together with the necessary bending and beveling slabs; so that by January 1, 1885, the Bureau expects to have the construction department of the Brooklyn navy-yard in condition to build any steel vessel that might be required. The iron-plating shop in this yard, in which the turrets of the *Miantoumoh* are now in course of erection, is well equipped for ship-work of all kinds that would be needed in connection with the work of building steel vessels, steel spars, boats, blocks, tanks, and metal fittings of all kinds used in the construction or equipment of a vessel of war.

In the event of an appropriation being made for more steel ships, the Bureau hopes that at least one-half of the ships may be built in our navy-yards, in competition, as to cost and character of work, with outside establishments. The Bureau does not wish to be understood as opposing the building of naval vessels by private establishments under contract; it believes that one-half of the vessels appropriated for should be built by contract, but in competition with the Government navy-yards; the cost of work in the navy-yards can thereby be reduced, and the contractors and workmen in private establishments educated up to the requirements of a vessel for the naval service, which, at the present time, are understood by so few, as the work and fittings incident to such a vessel differ so materially from those of a merchant ship. By this means, in the event of a sudden call for vessels, private ship-builders would be capable of furnishing suitable ships for the naval service, while the Department Bureau, and Inspectors would have much less trouble in the execution of the work, and there would be less litigation than heretofore during and after the completion of the contracts.

Common sense and patriotism require that our navy-yards should be put in a first-class condition of efficiency. The Navy is now so greatly reduced in the number of its vessels that we must of necessity build many new and modern steel vessels within a few years, if we are to have any navy at all.

Steel vessels cannot be kept clean without periodical docking and cleaning of their bottoms, and the attention of the Department is invited to the great want of proper docking facilities in our navy-yards. The recommendations made by Rear-Admiral E. T. Nichols, chief of the

Bureau of Yards and Docks, on this important subject, are fully concurred in by this Bureau. In the event of a maritime war, this deficiency would be seriously felt, perhaps to a greater extent than any other of our pressing wants, and it is worthy of consideration whether immediate steps should not be taken to place our navy-yards, in this respect, in a thorough condition of effectiveness. While other powers are increasing their dry-dock facilities, already greater in one yard than are in all of ours combined, we are doing comparatively nothing in this direction.

On the recommendation of this Bureau, and by direction of the Department, Naval Constructor Philip Hichborn was detailed, on the 2d of June last, to proceed to Europe for the purpose of observing personally the improvements in naval architecture, particularly in the construction of steel vessels of war. He was directed to visit all the important government and private dock-yards, and to examine the improved classes of vessels completed and in process of construction, and to closely observe the arrangements and tools for iron and steel ship construction, and to collect such information on these, as well as all other matters connected with the construction and equipment of modern vessels, as possible.

Constructor Hichborn sailed from New York on the 14th of June, in the City of Rome, and returned to the United States in the same vessel on the 27th ultimo. During his absence he has visited England, Scotland, Wales, Germany, France, and Russia, visiting all the most important establishments, public and private, in those countries. Since his return he has been detached from duty at the naval station at League Island and ordered to duty in the Bureau.

So far as the Bureau has been able to judge, in the limited space of time since his return, the results of his labors have been more than satisfactory. He met with a cordial reception wherever he went, and has made good use of his time while abroad. He is now at work on his report, which, when made, will be the most complete ever made upon the subject.

Under act of Congress approved March 3, 1883, and in accordance with orders of the Department, the following vessels have been broken up:

Canandaigua, 2d rate, 2,130 tons displacement, at Norfolk yard.

Snowdrop, tug, 125 tons displacement, at Norfolk yard.

Connecticut, 2d rate, 4,450 tons displacement, at Boston yard.

Under the same authority the following vessels are now in process of breaking up:

Plymouth, 2d rate, 2,400 tons displacement, at Kittery yard.

Massachusetts, monitor, 2d rate, 2,127 tons displacement, at Kittery yard.

Oregon, monitor, 2d rate, 2,127 tons displacement, at Boston yard.

Pennsylvania, 2d rate, 4,000 tons displacement, at Boston yard.

Virginia, sailing frigate, unfinished, 4,150 tons displacement, at Boston yard.

Java, 2d rate, 4,000 tons displacement, at Brooklyn yard.

Colossus, monitor, 2d rate, 2,127 tons displacement, at Brooklyn yard.

In a very short time these vessels will have ceased to exist, and the valuable room so long occupied by them in and out of ship-houses will be available for the work of the future.

Under the orders of the Department of October 24, 1883, the Monongahela, 2d rate, was converted into a store-ship by removing her boiler and engines, and thus enabling her to carry a large supply of coal and other necessary stores to Callao for the use of the Pacific squadron,

relieving the *Onward*, which vessel was in such a condition as to be unsafe to even lay at her anchorage much longer. The *Monongahela* is now in fine condition, and will last many years, and do good service as a store-ship.

The Bureau is strongly in favor of converting the *Ticonderoga*, now at the Brooklyn navy-yard, into a school-ship for the Naval Academy, to take the place of the *Dale*, an old sloop of war now used for that purpose.

The frigate *Constellation*, having been thoroughly repaired during the past year at the Norfolk yard, would, with the *Ticonderoga*, give the Academy two good practice-ships, capable of going anywhere with safety, and with comfort for all on board.

The *Ticonderoga* could be put in dock, her engines and boilers removed, the berth deck extended the entire length of the ship, and the hold space, not otherwise wanted, filled with water-tanks. If this vessel is sold she will not bring much, and the proceeds of sale would be of no benefit to the naval service. This recommendation, I know, meets with the entire approval of Capt. F. M. Ramsay, Superintendent of the Naval Academy.

In concluding this report, I beg leave respectfully to invite your attention to the present very low condition of the appropriation for construction and repair:

On the 1st of July, 1884, the balance on hand was.....	\$48, 026
Appropriated per act of July 7, 1884, for six months ending December 31, 1884	550, 000
	<hr/>
	598, 026
Expended for labor at yards to November 1	\$266, 733
Allowed for labor at yards for November	79, 345
Expended for materials to November 1	67, 107
Expended for materials to November 1, still unpaid, including raising of <i>Tallapoosa</i>	105, 895
Bills paid for ships on foreign stations.....	48, 864
	<hr/>
	567, 944
Amount available for labor at yards for December.....	} 30, 082
Amount available for materials at yards for November and December.....	
Amount available for foreign bills to December 31, 1884	
	<hr/>
Estimated amount required for labor at yard for December.....	75, 000
Estimated amount required for materials for November and December.....	15, 000
Estimated amount required for foreign bills to December.....	10, 000
	<hr/>
	100, 000

The following vessels are now under repairs or awaiting repairs, viz: At the Kittery yard, the *Omaha*; at the New York yard, the *Tennessee*, *Swatara*, *Intrepid*, *Yantic*, *Alliance*, *Vermont*, *Miantonomoh*, *Richmond*, and *Brooklyn*; at the Norfolk yard, the *Pensacola*, *Wyoming*, *Jamestown*, *Saratoga*, and *Portsmouth*; at the Mare Island yard, the *Mohican* and *Adams*.

It will be seen from the above statement that without the additional amount of \$70,000 the repairs on the above ships, and construction work generally in our navy-yards, must be virtually suspended during the month of December next.

The Bureau desires to state here that every exertion has been made to exercise economy in all its expenditures, and no repairs have been

authorized by it, except such as were reported under its instructions to be absolutely necessary to fit the respective ships for service.

I am, sir, very respectfully, your obedient servant,

T. D. WILSON,
Chief of Bureau.

Hon. WM. E. CHANDLER,
Secretary of the Navy.

REPORT OF THE CHIEF OF THE BUREAU OF STEAM
ENGINEERING.

NAVY DEPARTMENT, BUREAU OF STEAM ENGINEERING,
Washington, November 10, 1884.

SIR: In obedience to your order of October 24, I have the honor to submit to the Department the annual report of this Bureau for the past year, together with the estimates for the fiscal year 1885-'86, and estimates for new vessels proposed for the United States Navy:

APPROPRIATION, STEAM MACHINERY, 1884.

Amount appropriated for fiscal year 1883-'84, act approved March 3, 1883	\$1,000,000 00
Expended:	
For labor in navy-yards and stations, in constructing new engines, boilers, and their dependencies; repairing old boilers, machinery, &c., and fitting vessels for sea service; preservation of tools; handling and preservation of materials and stores	\$599,502 13
For purchase of materials, stores, machine-tools, freights, and incidental expenses	327,959 69
For payments on foreign stations for repairs, materials, &c.	77,455 92
	<hr/>
	1,004,917 74
Less repayments by transfers in adjustment of appropriations	11,152 99
	<hr/>
Total expenditure	993,764 75
	<hr/>
Balance on hand	6,235 25

This balance of \$6,235.25, however, is covered by obligations of the Bureau for purchases, &c., at home and abroad, the vouchers for which have not yet been received or the accounts not yet settled.

APPROPRIATION, MACHINERY, DOUBLE-TURRETED MONITORS.

Balance on hand as per report dated October 30, 1883	\$363,262 49
Expended since this report was made, to date, under contracts for engines, &c., for Puritan, Terror, and Amphritite	327,454 28
	<hr/>
Balance on hand	535,808 21

The larger part of this balance will be required to pay for the completion of engines, &c., for monitors Puritan, Terror, and Amphitrite, now under contract.

GENERAL OPERATIONS OF THE BUREAU.

The following table will exhibit the character and cost, for labor and materials, of the work done under cognizance of this Bureau for the fiscal year ending June 30, 1884, upon the machinery, boilers, &c., with

outfits, stores, &c., of naval vessels, and the expenditures for maintenance, &c., at the several navy-yards and stations:

Name of vessel.	Rate.	Engines, boilers, and machinery.	Stores and outfits.	Total.	Remarks.
Adams.....	3d.....	\$26,849 76	\$3,073 59	\$39,923 35	New boilers nearly completed.
Ajax.....	Iron-clad.....	.....	707 07	707 07	Preserving machinery.
Alarm.....	Torpedo-ram.....	889 26	2,806 40	3,695 66	In service.
Alert.....	3d.....	19,873 75	5,201 78	25,165 53	Stores for three years' cruise, new boilers completed in service.
Alliance.....	3d.....	19,591 98	606 53	20,248 51	New boilers being built; in service.
Amphitrite.....	Iron-clad.....	34,785 38	.....	34,785 38	Contract for machinery.
Brooklyn.....	2d.....	99 09	1,034 41	1,133 50	In service.
Canandaigua.....	2d.....	41 48	.....	41 48	Preserving machinery.
Catalpa.....	Tug.....	2,658 08	371 90	3,029 98	In service, general repairs made.
Coassat.....	Tug.....	4,342 68	1,405 03	6,347 71	Do.
Colorado.....	1st.....	713 05	72 23	785 28	Slight repairs made.
Despatch.....	4th.....	597 00	1,340 10	1,943 70	In service.
Dolphin.....	4th.....	2,000 00	602 87	2,602 87	Steam launch and stores.
Emerald.....	Tug.....	260 25	.....	260 25	In service.
Enterprise.....	3d.....	74 97	1,181 10	1,256 07	Do.
Essex.....	3d.....	3,740 93	1,953 73	5,694 66	In service, general repairs made.
Fortune.....	Tug.....	1,496 16	.....	1,496 16	Do.
Franklin.....	1st.....	630 19	2,111 45	2,741 55	Receiving-ship, Norfolk, Va.
Galena.....	3d.....	24,561 64	5,529 73	30,091 27	In service, extensive repairs to engines and boilers, stores for three years.
Hartford.....	2d.....	5,291 90	2,071 67	8,063 77	In service, new steam launch, slight repairs made.
In'repid.....	Torpedo-ram.....	4,031 06	.....	4,031 06	Alterations and repairs being made.
Iroquois.....	3d.....	36 21	14 88	50 07	In service.
Jamestown.....	3d.....	3,593 84	113 00	3,707 44	In service; repairs to steam launch and heaters.
Jason.....	Iron-clad.....	626 18	.....	626 18	Preserving machinery.
Juniata.....	3d.....	20 18	1,001 54	1,027 72	In service.
Kearygo.....	3d.....	3,756 42	5,756 71	9,513 13	In service, general repairs made, stores for full cruise.
Lackawanna.....	2d.....	596 82	2,452 64	3,048 26	In service.
Lancaster.....	2d.....	649 01	2,384 08	3,038 09	In service.
Leyden.....	Tug.....	254 35	.....	254 35	In service.
Marion.....	3d.....	70,100 57	.....	70,100 57	New boilers completed.
Mayflower.....	Tug.....	4,218 19	.....	4,218 19	General repairs being made.
Minutoman.....	Iron-clad.....	13,808 08	3,889 92	17,108 00	General repairs made.
Michigan.....	4th.....	272 53	17 12	289 65	In service.
Minnesota.....	1st.....	1,477 75	1,066 62	2,544 57	Gunnery training-ship.
Mohican.....	3d.....	62,147 30	.....	62,147 30	New engines and boilers being built.
Monadnock.....	Iron-clad.....	36,209 79	.....	36,209 79	Preparing machinery for launching (contract).
Monocacy.....	3d.....	34,720 31	1,063 54	35,883 85	In service; new boilers being built.
Monongahela.....	2d.....	4,761 74	.....	4,761 74	Preparing as a store ship at Callao, Peru.
Montauk.....	Iron-clad.....	.....	.....	698 45	Preserving machinery.
Monterey.....	Tug.....	10,952 94	.....	10,952 94	In service, new boilers being built.
Nahant.....	Iron-clad.....	209 54	.....	209 54	Preserving machinery.
Nantucket.....	Iron-clad.....	5,063 68	.....	5,063 68	In service, extensive repairs made.
New Hampshire.....	1st.....	401 73	108 80	510 53	In service.
New York.....	1st.....	81,458 58	.....	81,458 58	New boilers nearly completed.
Nina.....	Tug.....	20,662 60	910 80	21,493 30	In service, extensive repairs and changes completed.
Nipac.....	3d.....	414 40	795 34	1,209 74	In service.
Omaha.....	2d.....	26,820 18	.....	26,820 18	New boilers nearly completed.
Onward.....	4th.....	61 15	.....	61 15	Store ship at Callao, Peru.

Name of vessel.	Rate.	Engines, boilers, and machinery.	Stores and outfits.	Total.	Remarks.
Ossipee.....	3d	\$151,951 75	\$7,587 13	\$159,538 88	In service; new boilers completed and repairs made; stores for 3 years' cruise.
Ounalaska	Schooner	613 37	226 74	840 11	In service.
Palos	4th	6,271 55	838 81	7,110 36	In service; general repairs made.
Passaic	Iron-clad	87 38	.....	87 38	Preserving machinery.
Pawnee.....	3d.....	52 83	.....	52 83	Repairs to steam-launch.
Pensacola	2d.....	318 17	1,409 28	1,727 45	In service.
Pilgrim.....	Tug.....	67 41	153 53	220 94	In service.
Pinta.....	Tug.....	3,864 63	1,636 57	5,501 20	In service; repairs made.
Powhatan	2d.....	16,226 56	5,346 31	21,572 87	In service; repairs to engines and boilers made.
Puritan.....	Iron-clad	324,540 73	.....	324,540 73	Contract for machinery.
Quinnebaug	3d.....	29,937 46	4,783 18	34,720 64	In service; extensive repairs to machinery; stores for full cruise.
Ranger.....	3d.....	2,407 36	856 19	3,263 55	In service; repairs.
Rescue	Tug.....	40 86	.....	40 86	In service.
Richmond	2d.....	1,500 74	1,831 99	3,331 73	In service; repairs and new tubes.
Rocket	Tug.....	7,732 76	705 91	8,438 67	In service; new boilers being built.
Saratoga.....	3d.....	42 63	.....	42 63	In service.
Shawmut.....	3d.....	130 80	.....	130 80	Preserving machinery.
Shenandoah	2d.....	15,926 10	9,483 03	25,359 13	In service; repairs to engines and boilers; stores for three years' cruise.
Snowdrop	Tug.....	549 77	54 74	604 51	Removing machinery.
Speedwell	Tug.....	2,820 99	1,444 45	4,265 44	In service; general repairs made.
Standish.....	Tug.....	4 60	.....	4 60	In service.
Swatara	3d.....	9,300 37	4,071 71	13,372 08	In service; general repairs to machinery.
Tallapoosa.....	4th.....	4,047 71	4,130 52	8,187 23	General repairs.
Tennessee	1st.....	4,630 46	5,752 23	10,382 69	In service; general repairs.
Terror.....	Iron-clad	52,178 10	.....	52,178 10	Contract for machinery.
Trenton	2d.....	11,593 84	11,925 98	23,519 82	In service; general repairs; stores for three years' cruise.
Triana.....	Tug.....	1,540 60	243 61	1,784 21	In service; repairs.
Vandalia	2d.....	7,508 80	857 43	8,426 23	In service; new boilers being built.
Vermont.....	2d.....	643 90	83 62	727 61	Receiving-ship at New York yard.
Wabash	1st.....	97 81	893 21	991 02	Receiving-ship at Boston yard.
Wachusett	3d.....	398 63	459 72	858 35	In service.
Worcester.....	2d.....	88 58	.....	88 58	Preserving machinery.
Wyandotte.....	2d.....	74 20	327 61	401 90	Receiving-ship at Washington yard.
Wyoming.....	3d.....	571 20	.....	571 20	Repairs to boilers.
Yantic.....	3d.....	10,959 32	1,000 70	11,960 02	In service; extensive repairs to machinery.
Total .....	.....	1,226,426 49	116,164 76	1,342,591 25	

Expenditures at navy-yards and stations not included in the amount expended on naval vessels.

Navy-yards.	Yard expenses.	Miscellaneous.	Total.
Portsmouth, N. H.	\$26,462 48	\$1,705 12	\$28,167 60
Boston, Mass.	17,840 75	.....	17,840 75
Brooklyn, N. Y.	58,857 37	49,022 88	107,880 25
League Island, Pa.	15,747 00	1,409 22	17,216 82
Washington, D. C.	24,030 56	31,335 18	55,365 74
Norfolk, Va.	81,904 69	655 06	82,559 75
Pensacola, Fla.	4,453 75	727 56	5,181 31
Mare Island, Cal.	57,342 67	2,484 71	59,827 38
New London, Conn.	972 49	.....	972 49
Key West, Fla.	1,784 11	551 59	2,335 70
Foreign stations.....	.....	3,131 16	3,131 16
Total.....	289,396 47	91,082 48	380,478 95

NAVY-YARDS.

In relation to the condition of the departments under cognizance of this Bureau at the several navy-yards it is scarcely necessary to do more than to call attention to the very thorough and complete report of the Commission on Navy-Yards, dated December 1, 1883, and printed in Senate Ex. Doc. No. 55, Forty-eighth Congress, first session.

The Bureau would, however, emphasize their recommendation for a new boiler-shop at the New York navy-yard, as the building now used for the purpose is not large enough to accommodate the work, and it is so constructed that the machine tools necessary to the expeditious and economical construction of steam-boilers cannot be erected there.

In this connection it is proper to state that the floating derrick, one of the most useful and necessary appendages of the New York navy-yard, is in need of extensive repairs. Being constructed of wood and very old, it is not thought advisable to make any considerable outlay upon the hull, but it is proposed to rebuild the same of iron as soon as practicable, for which plans and estimates are now being prepared.

The Bureau takes pleasure in calling attention to the gratifying results from its efforts, referred to in the report of my predecessor, to carry into practical effect the suggestions of the Navy-Yard Commission, approved and ordered by you, for a reduction of the expenditures at the navy-yards for their maintenance and organization which do not enter into the accounts of expenditure upon naval vessels. For previous years the cost of this maintenance and organization under this Bureau was about 38 per cent. of the total expenditures of the Bureau for a fiscal year, but during the past fiscal year this was reduced to about 22 per cent. This is probably as low a percentage as can be maintained, having due regard to the efficient superintendence of the work done upon steam machinery of naval vessels at navy-yards, the purchase and preservation of tools and appliances for such work, and the adequacy of the clerical force.

The Bureau will continue to carry out this policy, and will make further reductions wherever it can be shown to be for the best interests of the Government.

PRESENT CONDITION OF MACHINERY OF NAVAL VESSELS, WITH THE WORK REQUIRED ON EACH.

The following will show the present condition and the work required to be done to the machinery of naval vessels to fit them for efficient sea-service, according to latest reports, with an approximate estimate of the cost of the same:

Adams (3d rate).—At Mare Island navy-yard, undergoing general overhauling and repair of engines, with new crank-shaft and new boilers to be completed and put in. (\$35,000.)

Alliance (3d rate).—In service. In fair condition, but will shortly have to be generally overhauled and repaired, with new boilers completed and put in. These boilers are in progress of construction at the Norfolk navy-yard (material all on hand). (\$60,000.)

Alert (3d rate).—In service. In good condition.

Ajax (iron-clad).—In good state of preservation. Would have to be repaired with new boilers for sea-service. (\$40,000.)

Alarm (torpedo ram).—In fair condition.

Brooklyn (2d rate).—General overhauling and repair, &c. (\$10,000.)

Catalpa (tug).—In service. Ordinary repairs. (\$2,000.)

Canonicus (iron-clad).—In good state of preservation. Would have to be repaired, with new boilers, for sea-service. (\$40,000.)

Camanche (iron-clad).—Well preserved. Could be made ready for sea-service at small cost. (\$2,000.)

Catskill (iron-clad).—Well preserved. Could be made ready for sea-service at small cost. (\$2,000.)

Cohasset (tug).—In service. In good condition.

Despatch (4th rate).—In service. In good condition.

Enterprise (3d rate).—In service. In good condition.

Essex (3d rate).—Will shortly require general overhauling and repair of engines; new boilers (material on hand) completed and put in. (\$55,000.)

Fortune (tug).—Repairs, with new boilers, to be completed at the Norfolk navy-yard. (\$3,000.)

Franklin (1st rate).—Requires new boilers (now on hand) to be put in, and machinery thoroughly overhauled and repaired, to fit for sea-service. (\$30,000.)

Galena (3d rate). In service. In fair condition. Will soon require new boilers. (\$65,000.)

Hartford (2d rate).—In service. In good condition.

Iroquois (3d rate).—In service. In fair condition.

Intrepid (torpedo-ram).—Undergoing alterations at New York navy-yard to fit her for a gunboat. (\$14,000.)

Jason (iron-clad).—Well preserved. To prepare for service. (\$2,000.)

Juniata (3d rate).—In service. In good condition.

Kearsarge (3d rate).—In service. In fair condition.

Lackawanna (2d rate).—In service. In very poor condition. Will soon need to be repaired, with new boilers. (\$75,000.)

Lancaster (2d rate).—In service. In fair condition.

Lehigh (iron-clad).—In fair state of preservation. To make ready for service. (\$3,000.)

Leyden (tug).—In service. Usual repairs incident to continuous service. (\$2,000.)

Marion (3d rate).—Has had thorough overhauling and repair, with new boilers, nearly completed, at Portsmouth (N. H.) navy-yard; will then be efficient for sea-service for several years.

Mahopac (iron-clad).—In good state of preservation. To fit for service. (\$3,000.)

Manhattan (iron-clad).—In fair state of preservation. To fit for service. (\$4,000.)

Mayflower (tug).—In service.

Michigan (4th rate).—In service. Should have thorough overhauling and repair, with new boilers. (\$25,000.)

Minnesota (1st rate).—Requires extensive repairs and new boilers. To fit for sea-service. (\$75,000.)

Mohican (3d rate).—Work on new compound machinery nearly completed at Mare Island navy-yard. (\$5,000.)

Monocacy (3d rate).—In service. Engines in good condition. Boilers to be replaced by partially completed boilers sent from Mare Island navy-yard to the Asiatic Station, to be put in at Shanghai. (\$20,000.)

Montauk (iron-clad).—In good condition. Ready for service. Stores and outfit. (\$2,000.)

Monterey (tug).—In service. Repairs incident to continuous service. (\$2,000.)

Nahant (iron-clad).—Well preserved. Ready for service. Stores and outfit. (\$2,000.)

Nantucket (iron-clad).—In good condition. Ready for service. Stores and outfit. (\$2,000.)

New York (1st rate).—Requires new machinery and new boilers (now on hand), to be erected on board the vessel at the New York navy-yard. (\$60,000.)

Nipsic (3d rate).—In service. In good condition.

Nina (tug).—In service. In good condition.

Omaha (2d rate).—Thorough overhauling and repairs, with new boilers, just completed at the Portsmouth (N. H.) navy-yard.

Ossipee (3d rate).—In service. In good condition.

Palos (4th rate).—In service. In fair condition.

Passaic (iron-clad).—In good condition.

Pensacola (2d rate).—Undergoing thorough overhauling and repair at the Norfolk navy-yard. (\$30,000.)

Pilgrim (tug).—In service. Repairs incident to continuous service. (\$1,000.)

Pinta (tug).—In service. In good condition.

Powhatan (2d rate).—In service. Boilers in bad condition. Requires thorough overhauling and repairs, with new boilers (material on hand). (\$60,000.)

Quinnebaug (3d rate).—In service. Boilers in poor condition. Will shortly require to be thoroughly overhauled and repaired, with new boilers. (\$75,000.)

Ranger (3d rate).—In service. In fair condition.

Rescue (tug).—Small repairs required. (\$500.)

Richmond (2d rate).—In service. Requires general overhauling and repairs, with new boilers. (\$45,000.)

Rocket (tug).—In service. In good condition.

Saugus (iron-clad).—Requires new boilers and machinery repaired to fit for service. (\$40,000.)

Shenandoah (2d rate).—In service. In good condition.

Speedwell (tug).—In service. In good condition. Repairs incident to continuous service. (\$2,000.)

Standish (tug).—In service. In good condition.

Swatara (3d rate).—In service. Will soon have to be generally overhauled and repaired, with new boilers. Boilers being constructed. (\$40,000.)

Tallapoosa (4th rate).—Will require to have engines, &c., overhauled and put in order. (\$5,000.)

Tennessee (1st rate).—In service, but undergoing repair at the New York navy-yard. Should soon have thorough overhauling and repairs, with new boilers. (\$85,000.)

Trenton (2d rate).—In service. In good condition.

Triana (tug).—Requires thorough repair and new boilers. (\$15,000.)

Vandalia (2d rate).—Being thoroughly overhauled and repaired, with new boilers put in, at the Portsmouth (N. H.) navy-yard. (\$30,000.)

Wachusett (3d rate).—In service. Requires thorough overhauling and repairs, with new boilers. (\$75,000.)

Wabash (1st rate).—Requires to be thoroughly overhauled and repaired, with new boilers (now on hand), (\$30,000), to fit for sea-service.

Wyandotte (iron-clad).—Ready for service.

Yantic (3d rate).—In service. In good condition.

DOUBLE-TURRETED MONITORS.

Miantonomoh (3d rate).—In good condition.

Amphitrite, *Puritan*, *Terror* (3d rates).—Work progressing satisfactorily under contracts for completion of the machinery, &c.

Monadnock (3d rate).—Boilers completed at Mare Island navy-yard. To build engines and fit for sea-service. (\$210,000.)

U. S. S. NEW YORK.

I beg to call particular attention to the U. S. S. New York, now upon the stocks, partially completed, at the New York navy-yard. While it would probably not have been judicious to begin the construction of such a vessel in the present progress of improvement in naval architecture, yet it is certainly a wise and economical measure to complete what would be really a desirable vessel for our Navy in its present condition, in value far beyond the comparatively small amount now necessary to finish her. The engines, boilers, &c., are now on hand, and only require to be erected and connected on board. If they are not used in her they will probably have to be sacrificed, as they are not adapted for use in any vessel which the Department possesses or would now build.

PERSONNEL OF THE ENGINEER CORPS.

I desire particularly to call attention to the inadequate numbers of passed assistant and assistant engineers, as provided by law, viz, 60 of the former and 40 of the latter.

The difficulties arising from this source become steadily more embarrassing; and as vessels of large power are being built, with the prospect of others to be constructed in the near future, these officers, who have already had their fair percentage of sea duty, must be ordered to sea at shorter intervals than the customs of the service exact for officers of equal age in other branches.

In September of this year, there were 166 officers of these grades, of whom 85 were attached to vessels in commission. There were 33 on shore duty, and 19 at the Naval Academy and teaching mechanical engineering at colleges, apparently leaving 29 for reliefs, &c. But of this latter number, 4 were sick, 4 more on sick leave, and 6 on leave of absence, really leaving only 15 awaiting orders and available for all contingencies. For the number of vessels in commission at the present time, the efficient officering of the engine department requires at least 80 passed assistant and assistant engineers. To keep this number afloat without an undue percentage of sea service will require an increase in the number allowed by law to at least 160, which I earnestly but respectfully recommend.

Another reason for this recommendation is, that the present system of education at the Naval Academy (according to which all the cadets are taught the same branches, irrespective of the duties to which their corps selections will call them) can never make them efficient specialists; and, in the inevitable absence of specially trained assistant engineers, the number of this grade should be increased, so that the juniors, with general nautical knowledge, may be sent to sea in company with older men of their grade, whose experience and education better fit them for their duties, and from whom the juniors may learn more of their particular profession.

PASSED ASSISTANT ENGINEERS.

Eloquent reference has frequently been made by my predecessors and by several honorable Secretaries of the Navy to the peculiar hardships under which the passed assistant engineers labor in consequence

of their delayed promotion. The justice of their request to Congress for a slight quinquennial increase of pay as a partial compensation becomes every year more apparent, and I most earnestly recommend their claim.

ESTIMATES OF APPROPRIATIONS.

I have the honor to submit herewith the annual estimate of this Bureau for the fiscal year ending June 30, 1886.

The small sum for printing which I have added to the ordinary estimates is for the purpose of continuing the publication of such reports made by experimental boards appointed by the Bureau as contain information of interest to the engineering profession.

This experimental work is ordinarily done without expense to the Government, at the cost of the persons desiring devices or methods tested. It is conducted on a scale sufficiently large to give results directly applicable in practice. The data is original and often valuable in illustrating some mooted point in engineering. The publication of it has been very acceptable to the profession, and the several issues have been sought for with such eagerness that the numbers of most of them are exhausted.

I venture to hope, in the interests of the profession, which this Bureau in some measure represents, that this moderate request may be granted.

Very respectfully,

CHAS. H. LORING,
Chief of Bureau.

Hon. WILLIAM E. CHANDLER,
Secretary of the Navy.

REPORT OF THE CHIEF OF THE BUREAU OF PROVISIONS AND CLOTHING.

NAVY DEPARTMENT,
BUREAU OF PROVISIONS AND CLOTHING,
Washington, D. C., November 10, 1884.

SIR: I have the honor to submit a report of the operations of this Bureau for the fiscal year ended June 30, 1884.

STATEMENT OF APPROPRIATION PROVISIONS FOR 1883-'84.

Amount appropriated for the year	\$1, 100, 000 00
Amount transferred from the appropriation provisions to general account of advances on account of expenditures by pay officers abroad during the year.....	\$780, 456 06
Amount expended by the Bureau, as per requisition.....	319, 267 40
	<hr/> 1, 099, 723 46
Balance of appropriation on hand at this date	276 54
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General account of provisions received and expended for 1883-'84:	
Amount appropriated	1, 100, 000 00
Amount received for provisions issued to officers' messes	5, 068 83
	<hr/> 1, 105, 068 83
	<hr/> <hr/>

Amount expended by pay officers abroad:

For commuted rations to officers.....	\$88,218 00
For commuted rations to crews.....	380,130 90
For commuted rations to marines.....	38,389 20
For provisions purchased (including water).....	309,895 67
Freight on provisions, labor, and expenses of store-houses.....	9,030 71

Total amount expended by pay officers abroad \$895,664 48

Amount expended by Bureau:

For commuted rations to officers.....	26,342 70
For commuted rations to crews.....	4,179 00
For provisions purchased (including water).....	213,875 71
Freight on provisions, labor, and expenses of store-houses.....	74,869 99

Total amount expended by Bureau 319,267 40

Amount of commuted rations stopped on account of sick in hospital and credited to the hospital fund.....	13,421 10
Amount due on contract.....	6,510 00

19,931 10

Total amount expended under provisions 1,164,862 98

Total amount appropriated and received 1,106,068 83

Deficiency for 1883-'84, overpayment from general account of advances. 59,794 15

Total expense on provision account, including balances expended and estimated losses:

For commutation of rations:

To officers, paid by pay officers abroad.....	\$88,218 00
To officers, paid by Bureau.....	26,342 70

Total for 381,869 rations, at 30 cents 114,560 70

Total expense on provision account, &c.—Continued.

To enlisted men, paid by pay officers abroad.....	\$380,130 90
To enlisted men, paid by Bureau.....	4,179 00
To marines, paid by pay officers abroad.....	38,389 20

To crews and marines, total for 1,408,997 rations, at 30 cents.... 422,699 10

Amount credited to hospital fund on account of sick in hospitals, 44,737 rations, at 30 cents..... 13,421 10

Total amount paid for 1,835,603 rations 550,630 90

Cost of rations in kind issued to enlisted men and marines, 1,876,545 rations, at 30.9245 cents each 580,312 33

Loss on rations issued, 5 per cent. on \$580,312.33 (estimated) 29,015 61

Amount paid for water purchased for cooking and drinking 13,669 70

Amount paid for freight, labor, and expenses of inspections and store-houses..... 83,900 70

Total expense on provision account 1,257,579 24

CLOTHING FUND.

Balance on hand July 1, 1883..... 344,585 90

Amount transferred from general account of advances to the clothing fund, on account of issues on board ships during the fiscal years 1882-'83 and 1883-'84..... 293,172 21

Amount received from sales of clothing..... 6,000 45

Total amount received under clothing 643,758 56

Amount transferred from the clothing fund to general

account of advances, on account of purchases by pay

officers during the fiscal years 1882-'83 and 1883-'84.... \$9,259 78

Amount expended by the Bureau, as per requisitions 171,809 75

Total amount expended 181,069 53

Balance on hand July 1, 1884..... 462,689 03

Amount transferred up to this date from the clothing fund to general account of advances, on account of purchases abroad during the fiscal year 1883-'84.....	\$9,056 55	
Cost of clothing issued on board ships during the fiscal year 1883-'84.....	246,406 07	
		<u>\$255,462 62</u>
Cost of clothing purchased by pay officers abroad and paid for from general account of advances during the fiscal year 1883-'84.....	9,704 90	
Amount transferred up to this date from general account of advances to the clothing fund, on account of issues on board ships during the fiscal year 1883-'84.....	230,671 33	
		<u>240,376 23</u>
Balance due the clothing fund at this date on account of the fiscal year 1883-'84.....		<u>15,086 39</u>

SMALL-STORES FUND.

Amount transferred up to this date from the small-stores fund to general account of advances on account of purchases abroad during the year.....	5,047 03	
Cost of small stores issued on board ships during the year.....	78,526 15	
		<u>83,573 18</u>
Cost of small stores purchased by pay officers abroad, and paid for from general account of advances, during the year.....	\$6,708 03	
Amount transferred, up to this date, from general account of advances to the small-stores fund, on account of issues on board ships during the year.....	72,400 05	
		<u>79,108 08</u>
Balance due the small-stores fund, at this date, on account of the fiscal year 1883-'84.....		<u>4,465 10</u>

APPROPRIATION CONTINGENT.

Amount appropriated.....	40,000 00	
Amount transferred from the appropriation contingent to general account of advances, on account of expenditures by pay officers abroad during the year.....	6,313 08	
Amount expended by Bureau, as per requisitions.....	32,914 32	
		<u>39,227 40</u>
Balance on hand at this date.....		772 60

CLOTHING.

The system established in 1879 for the manufacture of uniform clothing at the New York navy-yard has been much improved during the past year, under the immediate supervision of Paymaster G. H. Read, U. S. N., resulting in the production of better fitting and more perfectly made garments, in the reduction of the cost of uniforms for officers and enlisted men, and economy in Government expenditures.

Some of the advantages of the present system of manufacture are the following:

The Government makes no allowance for clothing, yet it is necessary for the Department to supply uniform clothing and material of regulation pattern to enlisted men or officers of the Navy, as they may be required.

Each officer and man being at liberty to procure his uniform outfit in such manner as he may prefer, it is for the interest of each to procure his uniform at the lowest price possible, and, as there is no compulsion to purchase from the Government, the inducements to draw clothing from the Government must be found in the convenient method

of supply, in the superior quality of each article furnished, and its moderate cost. Otherwise, if the articles are not of superior quality, and the other inducements do not exist, the clothing will, to a great extent, be rejected, deteriorate from age, and finally be condemned and sold as unfit for issue, at great loss.

Such was the experience of the Department under the former system of letting out the work of manufacturing uniforms to jobbers.

The saving to the Government and the advantage to the service resulting from the present system of manufacture warrant the Department in perfecting and extending it.

PROVISIONS.

The Board appointed to consider various questions concerning the Navy ration and the facilities for cooking on board vessels of war recommended certain changes, similar to those which this Bureau has already made for the vessels composing the training squadron. The subject having been referred by you to this Bureau, a new ration table has been prepared, embracing a number of articles of food admissible under the law, in addition to those at present in use, and which adds materially to the variety of the Navy ration. Most of these additional articles are such as are produced in this country, and packed for preservation in a peculiar manner.

The importance of supplying these articles for sea use perfectly sound and of good quality cannot be overestimated, for upon them largely depend the health and comfort of the enlisted men in the Navy.

To secure the freshest and best quality of this class of goods it is desirable to procure them from skilled and responsible packers, under a guarantee that they will keep for a stipulated length of time. They embrace such articles as butter, brawn, canned roast beef, mutton, ham, bacon, canned vegetables, and salt fish, and other articles of like character.

To maintain such a ration as is now proposed, the class of articles mentioned above should be packed in the United States especially for naval use and supplied to our foreign squadrons at regular intervals of two or three months, and not to be procured abroad, as provisions are procured in bulk, except in case of necessity and always for immediate consumption.

The deterioration and condemnation of provisions unfit for issue result largely from the purchase of inferior articles abroad, and the system created by law of purchasing yearly supplies under contract. The system is wasteful, inconvenient, and expensive, and under it the Government seldom procures these supplies direct from the packers. The advantage of procuring supplies direct from the original dealers, or their agents, is demonstrated by the favorable experience of the British navy. In that service the director of naval supplies procures, at his discretion, under his responsibility to the British Admiralty, every article procurable under the appropriation for supplies, which amounts to £5,000,000 annually.

The law requiring the purchase of provisions from the lowest bidder after advertisement is not well adapted to the procurement of canned provisions. Being hermetically sealed, each package cannot be inspected. The honesty and responsibility of the packer are, therefore, the best guarantee against the delivery of inferior products. All provisions should be purchased, not periodically, but as the demands of the service require. There can be no reasonable doubt that, if greater

latitude in the methods of procuring provisions for our Navy should be conceded to the Navy Department, under the most rigid guards against frauds which Congress can impose, a great saving to the Government would result, and better and fresher food be provided for the enlisted men of that service. These remarks apply with special force to the purchase of beans, peas, bacon, ham, tea, molasses, and all similar articles of food.

That provisions may be furnished in proper quantities and proportions for our squadrons abroad, capable and experienced pay officers should be detailed at the most accessible ports, to draw from the United States in advance such stores as may be needed for the squadrons on the several stations for the period of three months, and to receive and distribute them. By means of the direct and rapid modes of communicating with distant ports in different parts of the world, now available, supplies could be furnished with certainty and regularity from this country, and large sums, now expended abroad, would be distributed among our own merchants.

The means of preparing and cooking food on board our vessels of war have heretofore been inadequate. The method of cooking has been limited almost entirely to boiling. The cooks have been unskillful. The intervals of serving meals have been too short. While dinner has been served at 12 o'clock noon, breakfast has been served at 8 o'clock a. m., and supper at 4 o'clock p. m., leaving an interval of sixteen hours during which enlisted men are not provided with a meal, although the food supply is sufficient. Dr. Pavy in a long essay on practical dietetics (1881) uses this language: "Next to the quantity and quality of food, attention must be given to the mode of taking it. That the food should be taken with regularity, and at proper periods, is almost as necessary for the maintenance of health and a vigorous state of the energies as that it should be of a proper nature and in proper quantity."

Surgeon Kershner, U. S. N., in his report to the Bureau of Medicine and Surgery, printed in 1878, calls attention to the following in regard to the manner of furnishing meals to the enlisted men:

1. They get but one hot and sufficiently varied meal a day (dinner).
2. They get a cold breakfast, consisting of but a single food element, dry bread. Fats are naturally called for at breakfast to start the machinery of digestion.
3. All three of their meals are crowded into about nine hours, leaving fifteen hours of fasting. Growing boys should be fed often, and the younger they are the oftener they should be fed.
4. The large quantity of coffee consumed daily, without a corresponding supply of solid food to accompany it, is likely to give rise to atonic dyspepsia.
5. Is it not possible to improve the present mode of cooking the ration, so that more of its fatty parts, now wasted as "slush," may be saved as food, and greater variety in form be obtained? The French Navy appears to have met with fair success in this direction.

On every large ship of war an experienced baker should be employed, and means should be provided for baking breads and meats.

The present practice of employing enlisted men, entirely ignorant of cooking, to act as cooks for separate messes should be abandoned, and competent men for that special duty enlisted, and wages commensurate with the services they render should be paid from the appropriation "Pay of the Navy."

The custom of commuting a ration for the mess cooks or caterers, for their individual benefit, is not only unjust to the rest of the mess, but is not warranted by law.

The ration regulations lately issued by this Bureau, with your approval, are intended to change some of these practices, but the subject

is one of sufficient importance to enlist the active co-operation of the entire service.

The former regulation of the Bureau allowing a surrender of a portion of the ration, resulted in the loss to the Government of large quantities of good provisions, which were surrendered over and over again until they were condemned as unfit for issue.

Nor did the practice in the service at large prove to be as popular as in some quarters it was supposed to be. This is demonstrated by the returns to this Bureau, which show that the portions of the surrendered rations in the entire Navy for the fiscal year 1881-'82 amounted to \$59,762.58. Returns for fiscal year 1882-'83 amounted to \$53,546.07. For six months, from July 1, 1883, to January 1, 1884, it amounted to only \$9,264.51.

These figures prove that neither the necessity nor inclination of the enlisted men rendered the practice advisable, and the order has been rescinded.

TOBACCO.

The Bureau again calls attention to the law which limits the procurement of tobacco to the kind now in use, and recommends a change therein, so that the Bureau shall have authority to purchase such quality of tobacco as the enlisted men who use and pay for the same may prefer.

THE LADY FRANKLIN BAY EXPEDITION.

In fitting this expedition with provisions and clothing this Bureau found on record no adequate specifications by which articles required could be manufactured or purchased.

By correspondence and consultation with the highest authorities on polar expeditions new lists of provisions and clothing were made containing the names of many articles not included in any other lists obtainable, and careful specifications of each article and the manner of packing them were drawn up, printed, and filed in this Bureau for future reference.

The total amount expended for clothing for this expedition was	\$63,027 15
Amount issued to officers and men during the cruise.....	30,225 86
Value remaining on hand	32,801 29
Total amount expended for provisions	105,047 74
Amount issued to officers and men during the cruise.....	22,326 86
Value remaining on hand	82,720 88

A considerable quantity of these provisions returned have been utilized for the Navy.

Such portions of the clothing and provisions as are not adapted to naval use will be disposed of at public sale, as provided by law.

The principal articles in this list are furs and pemmican.

It is with great satisfaction that the Bureau learns from the commander of the expedition, Commodore W. S. Schley, United States Navy, that the outfit provided by this Bureau proved to be of excellent quality. The pemmican, which is exceedingly difficult to prepare, was promptly furnished by Messrs. Kemp, Day & Co., who also furnished other canned goods of the best quality.

The soups and beef were furnished by McNally, Libby & Co., of Chicago; the numerous other articles were prepared by the extensive grocers, Messrs. Thurber & Co., of New York City.

SALE OF SUPPLIES TO OFFICERS AND MEN.

Under sections 1144, 1145, 1200, 1300, 1368, and 3692 of the Revised Statutes, authority is given to the Subsistence Department to sell to officers and enlisted men such articles as may be designated by the Inspectors-General of the Army, and the amounts received from sales of such commissary stores are exempted from being covered into the Treasury, and it is provided that the money so received shall revert to the general appropriation for use in making other purchases. It would confer great benefits upon the enlisted men and officers of the Navy, if similar privileges should be extended to them, under regulations which might be established by this Bureau with the approval of the Secretary of the Navy.

MARINE PROPERTY ACCOUNTS.

Heretofore the property accounts of the Marine Corps have not been adjusted or examined by the Navy Department.

By the terms of your regulation circulars Nos. 39 and 40 certain money and property accounts of the Marine Corps are to be rendered to this Bureau, and returns of arms and accouterments to be made to the Bureau of Ordnance.

Proper steps have been taken by this Bureau to carry out the provisions of the circulars with regard to the accounts placed under its cognizance.

ACCOUNTS.**PAYMENT OF NAVAL CLAIMS.**

By the terms of section 3676 of the Revised Statutes it is made the duty of the Secretary of the Navy to direct the payment of claims appertaining to that service after adjustment by the accounting officers of the Treasury.

Contrary to this provision of law, heretofore such claims have been settled by certificates of those accounting officers, which certificates embrace orders for payment to pay officers of the Navy.

Under your direction the Bureau now receives all certificates of claims adjusted by the accounting officers, registers and forwards them to the pay officers designated to pay them. The system appears to work with satisfaction, and it enables the Secretary of the Navy to exercise a supervision over their payment, which might, in case of doubtful claims involving large amounts, prove to be of great advantage to the Government.

In the opinion of this Bureau all naval accounts should come under the scrutiny of the Navy Department, including those under "Pay of the Navy" and "General account of advances," which now are transmitted directly and only to the accounting officers of the Treasury.

The pay-rolls of the Navy include accounts and receipts for millions of dollars annually. The amounts paid are from appropriations under the control of the Secretary of the Navy. Yet for these vast amounts there are no vouchers transmitted to the Secretary and no record kept of them in the Department from which information pertaining to them can be obtained. This occurs through the operation of a clause in section 3622 of the Revised Statutes, which, it is submitted, should be so modified as to require the scrutiny and supervision of the Secretary of the Navy over all accounts of disbursements under naval appropriations,

after the system in practice in the Army, before transmittal to the accounting officers of the Treasury.

THE PAY CORPS.

The total number of pay officers on the active list at the present time is 120, distributed as follows: On sea duty, 39; on shore duty, 50; settling accounts, waiting orders, or on leave, 29; and under suspension, 2. There have been altogether, during the past year, 60 different pay officers on sea duty and 63 on shore duty at home and abroad, thus showing the number of changes of station to have been 34, and illustrating the fact that the number of officers necessary in the corps to make these changes is considerably in excess of the number permanently required on duty, and also in excess of the ultimate limit of the corps to 96 officers, fixed by the act of August 5, 1882.

In the Pay Corps during the year there have been 2 deaths, 2 retirements, and 1 resignation, causing 6 promotions for all grades, and reducing the corps by 5 members, thus leaving the total number of 120 pay officers, as stated above.

This is an excess of 24 officers over the number of 96 to which the corps is ultimately to be reduced under the operation of the law allowing only one promotion for every two vacancies in the three lower grades, and prohibiting new appointments until the above limit is reached. The retirements by age are the only casualties which can be known and counted on, and by these 15 years more must elapse before the corps can be reduced to the limit fixed by law, which will be reached in June, 1899; and of these 24 retirements, 18 (or three-fourths) occur in the last three years. Meantime promotion in the lower grades is almost at a standstill, but two such promotions having occurred during the year, and justice would seem to require the passage of a law providing for an increase of pay in the grades of passed assistant and assistant paymaster for the periods of the third and fourth five-years service therein. I therefore recommend the passage of such a law.

The total amount of money received and disbursed or remaining unexpended in the hands of the Pay Corps of the Navy during the past year in their varied duties as paymasters, and as the general purchasing agents of the Navy for stores of all kinds, was \$17,235,458.70, and the responsibility of pay officers for the provisions, clothing, and other stores handled by them during the year amounted to \$3,820,274, making their total pecuniary responsibility amount to \$21,055,733, all of which has been accounted for without any loss whatever to the Government.

I herewith submit estimates of appropriations, marked A, B, C, D, and E, for the support of the Bureau for the fiscal year ending June 30, 1886, together with schedules from 1 to 12, inclusive, of proposals received, and statement, numbered 13, of contracts made on account of the Bureau during the fiscal year ended June 30, 1884.

I have the honor to be, very respectfully, your obedient servant,

J. A. SMITH,

Paymaster-General, U. S. Navy.

Hon. WILLIAM E. CHANDLER,

Secretary of the Navy.

REPORT OF THE COMMANDANT OF THE MARINE CORPS.

HEADQUARTERS U. S. MARINE CORPS, COMMANDANT'S OFFICE,
Washington, D. C., October 3, 1884.

SIR: I have the honor to submit my annual report of the condition of the United States Marine Corps.

On October 1, 1884, there were 1,962 enlisted men in the Corps, 950 of whom were on board ships in commission, and 1,012 doing duty at the several shore stations.

During the past year there have been 893 enlistments, 140 re-enlistments, 16 enlistments from the Army, 398 discharges, 21 deaths, and 571 desertions. One major, two captains, and one first lieutenant on the "active list," and one first lieutenant on the "retired list" have died since the date of my last report. One captain has been retired, and five second lieutenants have been appointed, to fill vacancies, from the graduates of the Naval Academy.

I renew my recommendation that the number of second lieutenants may be increased to thirty, as provided by section 1596, Revised Statutes. By your direction the estimates have been made for that number.

The inspections made at the posts, and of guards of vessels, are more than ever highly satisfactory, and reflect much credit upon the officers and enlisted men.

I urgently renew my recommendations that Congress may authorize an increase of appropriations for more privates, the present number, 1,500, being inadequate.

By your direction the detachment serving at the navy-yard, Pensacola, Fla., was withdrawn in May last as a measure of precaution, fearing another outbreak of yellow fever. Another detachment can be sent there whenever the Department thinks proper to so order.

The troops are well quartered, except at Norfolk, Va., where new barracks are urgently required. As stated in my last report, a suitable building (not needed for other purposes) at the Norfolk navy-yard can easily be converted into an excellent barrack at an estimated cost (prepared by the civil engineer) of \$12,350. This item was inserted in the sundry civil bill at the last session of Congress, and passed the Senate, but failed to pass the House of Representatives. I trust it may be favorably considered at the next session.

There are no quarters for officers at Norfolk, Va., and they are forced to live at long distances from the men. An excellent site can be had in the navy-yard upon which four inexpensive houses could be built at a cost of \$24,000.

In justice to the officers of the corps some increase of the higher grades should be made, which would, at the same time, not increase the whole number of officers allowed by law, but would distribute them to better advantage. Promotion in the higher grades is almost at a standstill; and from present appearances some of the captains will never rise to be majors. An excellent bill was presented to Congress some time since which, if it had become a law, would remedy all difficulties. It should be renewed, and I trust the Department may consider it favorably.

Regulations defining the duties of officers and men are much needed, and those drawn up by a recent board, I trust, may receive the approval of the Department.

The usual estimates for the support of the Corps were forwarded to the Navy Department on the 27th September last, and on the 2d instant.

Very respectfully, your obedient servant,

C. G. McCawley,
*Colonel Commandant,
United States Marine Corps.*

Hon. Wm. E. Chandler,
Secretary of the Navy, Washington, D. C.

SUMMARY REPORT ON ADDITIONAL VESSELS.

NAVAL ADVISORY BOARD, NAVY DEPARTMENT,
Washington City, November 7, 1884.

SIR: The Board respectfully presents a brief summary of its work in preparing the general preliminary designs of the vessels required in the Department's letter of 21st April last.

The 3,000-ton cruiser is a high freeboard, single-decked, twin-screw vessel, of which the speed is stated to be not less than 14 knots an hour in smooth water, and the maintained sea speed 13 knots. The battery, consisting of four 6-inch and seven 5-inch B. L. R. guns and ten Hotchkiss cannon, all the great guns being mounted on the upper deck; two 5-inch in recessed ports on either bow, under a light top-gallant fore-castle; four 6-inch guns in sponsons, two to fire right ahead and two right astern; four 5-inch guns in broadside, and one in the stern.

There will be two complete and independent sets of propelling machinery, in separate water-tight compartments, having a maintained collective indicated horse-power of 3,500. The ship will have a bark rig and light head-booms, spreading about 11,000 square feet of plain sail, or two-thirds full sail-power.

The two heavily-armed cruising gun-boats are the same in every respect except the caliber of the guns. They are 220 feet in length, 35 feet beam, and 1,600 tons load displacement. They have twin screws, independent horizontal engines, developing in aggregate 1,600 indicated horse-power, which is expected to give them a speed equal to that stated for the 3,000-ton cruiser. They will be rigged lightly, without head-booms, as hermaphrodite brigs to top-gallant sails.

The battery of one will consist of two 8-inch guns mounted on central pivot carriages at either end of a central superstructure, and two 5-inch guns mounted on the superstructure deck in sponsons forward. In the second, the forward 8-inch gun is replaced by a 10-inch and the after one by a 6-inch gun.

Both these vessels and the 3,000-ton cruiser are protected by inclined steel decks, side coal-bunkers, and careful water-tight subdivision throughout.

The light cruising gun-boat of 800 tons displacement will carry a battery of six low-power 5-inch B. L. R. guns—one on the poop, and one on the fore-castle, and four in broadside. A barkentine rig will spread about 5,000 feet of plain sail, which, with a single screw, will make the vessel manageable and useful under sail; but the rig is of such a character that the speed of 10 knots an hour should be maintained at sea under ordinary circumstances. In order to produce these results, and at the same time give a large coal supply of 150 tons, it is

considered necessary that the hull should be as light as possible, and therefore to make it of mild steel unsheathed. The machinery and boilers of this vessel will be protected by the coal-bunkers. The boilers will be of a type favorable to the use of forced draught, and at least a speed of 11 knots an hour will be expected in smooth water.

The armed dispatch boat is an unprotected vessel of high speed, and of the size, motive power, and general description of the Dolphin, but carrying a battery of 17 Hotchkiss cannon, which can all be mounted to great advantage on the upper deck. It is proposed to mount the two heaviest revolvers in the extremities of the ship, 12 cannon of various calibers in sponsons on the main deck, and one in each top.

It has been urged, in regard to this vessel, that the armament should have one great gun, say one 6-inch gun, as in the Dolphin; but it is the opinion of the Board that for the class of work which the armed dispatch boat will be expected to perform, namely, to attack armed merchant steamers, the great number of rapid-firing shell-cannon will be most effective, both when directed against the buoyancy by firing at the water-line, or disabling the fire of artillery. This matter has been the subject of careful investigation, and the conclusion reached is in favor of the number of high-power, rapid-firing cannon as against the single great gun whose fire is slow and inaccurate, when considered in connection with the speed of a modern steamer.

It may be objected that the speed stated for these vessels is insufficient, but in each one the weight devoted to propulsive machinery is all that justice to the other qualities of the vessel will permit, and with the present facilities at the service of the Board for determining either the power to be obtained under conditions in many respects new to the naval service, or the efficiency of the power developed in reference to the speed, it is not justified in placing a higher estimate on the speed to be obtained from the present allowances.

THE ARMORED STEEL RAM.

The Board's letter of 4th June, 1884, fully explains its views, namely: that it could not advise for construction the ram recommended by the first Naval Advisory Board, which was of the type designed by Rear-Admiral Ammen; not approving the position of the ram given by the form of construction, finding the speed which could be obtained for the displacement entirely inadequate and the estimated cost much too small. Though the Board would not have recommended the construction of a mere unarmed harbor-defense ram whose usefulness even in any event is extremely limited, an attempt was made to present the general features of a vessel in accordance with the views of the Department. This is a handy, short, twin-screw vessel of 3,000 tons displacement, and 17 knots speed, with a central citadel of 10-inch armor to protect the machinery and an under-water protective deck, extending from the armored bulkhead to the extremities, to protect the buoyancy, strengthen the ram, and protect the steering gear. The engines recommended for this ship are two sets of three-cylinder, inverted-cylinder, direct-acting engines of 42 inches stroke.

The boilers will be contained in a small water-tight compartment, suitable for efficient use of forced draught.

The following table gives the general features of each of these vessels, as recommended:

Table of dimensions and general features of vessels recommended by the Naval Advisory Board, in compliance with the Department's letter of April 21, 1884.

Dimensions or items.	3,000-ton cruiser.	Second heavily-armed gunboat.	Heavily-armed gunboat.	Armed dispatch-boat.	Light gunboat.	Armored ram.
Length between perpendiculars.....	200 feet.....	220 feet.....	.....	250 feet.....	175 feet.....	210 feet.
Extreme breadth.....	42 feet.....	35 feet.....	.....	35 feet.....	28 feet 6 inches.....	47 feet.
Mean draught of water.....	16 feet 10 inches.....	13 feet 10 inches.....	.....	14 feet 3 inches.....	10 feet.....	17 feet.
Load displacement.....	3,100 tons.....	1,600 tons.....	.....	1,550 tons.....	800 tons.....	3,000 tons.
Freeboard.....	12 feet.....	5 feet 10 inches.....	.....	5 feet 10 inches.....	5 feet.....	9 feet.
Speed (in knots):						
Smooth water.....	14.....	14.....	.....	16.....	11.....	17.
Sea.....	13.....	13.....	.....	.....	10.....	.....
Main battery.....	Four 6-inch; seven 5-inch.	One 10-inch; one 6-inch; two 5-inch.	2 8-inch; 2 5-inch.	.....	Six 5" medium power..	.....
Secondary battery.....	2.57mm S.....	4.47mm Rev.....	.....	6.57mm S. H. P.....	2.37mm Rev.....	4.37mm.
Weight of ordnance.....	4.47mm Rev.....	2 gattlings.....	.....	4.47mm S. H. P.....	1.37mm S.....	4 gattlings.
Thickness of protective deck.....	2.37mm R.....	.....	.....	3.37mm S. L. P.....	1 gattling.....	.....
Rig.....	2.37mm S.....	.....	.....	4.37mm Rev.....	.....	.....
Area of plain sail.....	2 gattlings.....	.....	.....	1 short gattling.....	.....	.....
Coal capacity.....	180 tons.....	100 tons.....	.....	67 tons.....	44 tons.....	10 tons.
Complement of men.....	13 and 2 inches.....	13 inches.....	.....	Barkentine.....	Barkentine.....	23 inches.
I. H. P.....	11,000 square feet.....	Hermaphrodite brig.....	.....	Barkentine.....	5,000 square feet.....	None.
Condition of trial.....	500 tons.....	8,000 square feet.....	.....	8,000 square feet.....	150 tons.....	Do.
Revolutions.....	230.....	250 tons.....	.....	300 tons.....	100.....	.....
Screws:	3,500.....	120.....	.....	100.....	650.....	.....
Single or twin.....	Six hour.....	1,600.....	.....	2,200.....	Six hour.....	Six hour.
Diameter.....	.....	At sea.....	.....	At sea.....	.....	.....
Pitch.....	.....	100.....	.....	80.....	.....	.....
Type of engines.....	Twin.....	Twin.....	.....	Single.....	Single.....	Twin.
Stroke.....	14 feet.....	11 feet 6 inches.....	.....	14 feet 6 inches.....	9 feet 6 inches.....	14.
Condensing surface.....	19 feet.....	16 feet 6 inches.....	.....	24 feet.....	12 feet 9 inches.....	21.
Boilers, type of.....	Horizontal, direct-acting.	Horizontal, direct-acting.	.....	Vertical, direct.....	Horizontal, back-acting.	Vertical, direct.
Grate surface..... square feet.....	36 inches.....	28 inches.....	.....	42 inches.....	20 inches.....	42 inches.
Heating surface..... do.....	7,000 total.....	3,200.....	.....	4,000.....	1,200.....	3,000.
Working pressure..... pounds.....	Cylinder 11 feet 8 inch diameter.	Cylinder 9 by 17 feet 6 inches.	.....	Cylinder 11 feet diameter.	Cylinder side diameter 7 feet 10 inches.	Cylinder 13 feet.
Weight of machinery..... tons.....	400.....	182.....	.....	270.....	66.....	.....
	10,000.....	4,600.....	.....	.....	1,600.....	10,000.
	90.....	100.....	.....	100.....	100.....	100.
	670.....	435.....	.....	435.....	150.....	750.

Three requests in the Department's letter still remain unanswered. First, with regard to the 4,500-ton cruiser: the Board has now under consideration the preliminary design of a vessel which it has strongly recommended to the Department in the following terms:

The Board has now decided that it will not recommend the construction of another vessel of the size and cost of the *Chicago*; for this would be to premise that the Navy should be eventually provided with vessels of this class for flag-ships, whereas, the Board is of the opinion that the necessity of providing accommodations for a flag-officer and his staff should not influence the construction of a fighting vessel. The *Chicago* is a representative of the fully equipped unarmored cruiser, but it is believed that the same fighting efficiency can be obtained without the sacrifice of any qualities essential to a war vessel, and at much smaller first cost and expense of maintenance, by the construction of a fast twin-screw steam cruiser of the type of the *Boston* and *Atlanta*, of about 3,600 tons displacement. This vessel should carry some armor-piercing guns, which should be rendered useful and effective by a speed far surpassing that of most iron-clads, at least 16 knots an hour in smooth water. The ship should be protected by a steel deck extending throughout the whole length, and by the careful subdivision of the space above and below it, and of the coal-bunkers. By the adoption of twin-screws, and two complete and independent sets of machinery, and perhaps a further subdivision of the boiler compartments, with a view to the use of forced draft, the Board feels justified in recommending that the use of sails as a means of propulsion be entirely abandoned in this vessel. The Board is aware of the objection that will be urged against this action, that owing to the lack of coaling stations abroad it is exceedingly important that sails should be retained in order that vessels may cruise under sail, and thus maintain themselves longer at sea.

This only forces the single conclusion that coaling stations must be provided, for there is hardly a doubt but that the *Chicago*, at sea under sail alone, would be the prey of an antagonist of one-third her size, approaching under steam, in these times of high speed.

The Board is now proceeding with the consideration of the design of the vessel herein recommended. If, however, the Department wishes to be advised concerning the design of a 4,500-ton fully equipped cruiser, then the Board will recommend that the *Chicago* be duplicated throughout, except in some minor improvements in detail of arrangements, scantlings, &c.

TORPEDO-BOATS AND TORPEDOES.

In the designs of these vessels, as in the cruisers now building, the Board has made allowances for the use of an automatic fish torpedo of some kind; but has recommended that the *ship's* spar torpedo outfit, as fitted in the United States naval vessels, should be omitted, as in the opinion of the Board it does not add to the fighting efficiency.

In regard to advising the Department concerning the three torpedo-boats, the Board found that torpedo-boats for naval attack, coast and harbor defense of all European nations, are now designed to use the Whitehead torpedo alone. Also, that the boats must be built with special reference to the use of some torpedo, and as the only one in use by the United States was the spar, the Board inquired if these boats were to be designed for its use. The reply was indefinite, and no action was taken; but now the Board is prepared to make definite recom-

mendations, as it is considered that the importance of the matter demands prompt action.

Recent reports show that American inventions of automatic fish and projectile torpedoes possess great merits, and bid fair to become, at reasonable cost, powerful and useful weapons, but at the present moment the only torpedo in the world that has passed through all the experimental stages, and is in the market for sale as a completed weapon of war, is the Whitehead.

The subject of a completely organized torpedo-boat coast defense has been attracting a great deal of attention in Europe for a number of years, and now is considered indispensable. They are intended to form a middle line of defense or coast patrol between the forts and fixed mines inshore, and the monitors and coast defense vessels outside. At present this middle line is in a fair way of becoming considered as the most important of the three lines of defense.

Germany is leading in this direction, and will shortly be in possession of 150 of these craft (about \$4,320,000 worth), or one for nearly every ten miles of coast, which distance the boat can traverse in half an hour in any weather in which an iron-clad dare approach.

The coast of the United States is admirably adapted for this kind of warfare, and it is deemed by the Board to be of great importance that a commencement should be made with reference to it; but before making large expenditures, it is necessary to determine the proper type of boat, and to make a thorough investigation of the different torpedoes adapted to naval purposes.

The Board would recommend as follows:

1. That \$100,000 be appropriated for the purchase of the right to use the Whitehead torpedo, and of a certain number of completed torpedoes.

(2) That \$150,000 be appropriated to build by contract one first-class torpedo-boat 130 feet long; one first-class torpedo-boat 110 feet long, and one second-class torpedo-boat 70 feet long, all fitted to carry the Whitehead torpedo, and the contracts to stipulate a penalty if the results of foreign boats are not obtained, and a premium if they are exceeded.

In regard to the armored vessel, the Board is decidedly of the opinion that the United States should be in possession of a first-class sea-going battle-ship, namely, a vessel that should be armed with the heaviest guns, protected with the heaviest armor, and provided with the maximum engine power now considered attainable in a vessel of not unwieldy magnitude. While disposed to recommend such a design to the Department, the Board finds on investigation certain insuperable natural obstacles to the use of such a vessel on the Atlantic coast, and which limit the value in even the deep-water harbors of the Pacific.

It is essential that even a vessel for operations on the high seas should be able to enter our principal ports and naval stations for supplies, repairs, &c., at any state of the tide. Investigation proves that this condition would limit the maximum draught of water to twenty-three feet.

Again, the dimensions of the vessel must be governed, unfortunately, by the size of our dry-docks. That building at Mare Island is the only one that would admit a first-class iron-clad, while the docks at Boston and Norfolk limit the extreme breadth to about 58 feet.

Therefore, with an absolute limit on two dimensions, the requisites for handiness that a vessel should not exceed 300 feet in length, for a certain degree of fineness of form which is essential to speed; these, combined with two other governing qualities of the large margin of stability and the space for well-protected machinery, would fix the maximum

displacement for vessels of this type for the United States Navy at about 7,000 tons.

The requirements of our service are peculiar and the qualities of an iron-clad require most careful adjustment, but the Board expects to forward to the Department a preliminary design at an early date.

Very respectfully,

E. SIMPSON,
Rear-Admiral, U. S. N., President of the Board.

HENRY STEERS,
Naval Architect.

ALEX. HENDERSON,
Chief Engineer, U. S. N.

J. A. HOWELL,
Captain, U. S. N.

F. M. BARBER,
Lieutenant-Commander, U. S. N.

F. L. FERNALD,
Naval Constructor, U. S. N.

Hon. W. E. CHANDLER,
Secretary of the Navy.

REPORT ON TORPEDO-BOATS FOR COAST DEFENSE.

PARIS, FRANCE, August 26, 1884.

Of all the special branches of naval equipment, none is at present receiving a more careful and wide-spread attention amongst the European naval powers than that of the torpedo-boat for coast defense. Every country, without exception, that possesses a sea-coast is at this moment engaged in building, or having built, boats suitable for this service. Portugal alone, of all these countries, possesses less than nine boats competent to take part in coast defense. (In the use of the word *coast*, its literal definition is intended.) Every evolutionary squadron has its attachment of torpedo-boats forming an independent flotilla, fully able to accompany the squadrons under all circumstances of wind and sea. In all countries officers are picked from the lower grades of the executive corps, and are given a special training in handling them, to acquire an intimate knowledge of every detail of the boats and of their native coasts. The crews form a picked corps of men thoroughly instructed in the working of the machinery and weapons, and with but one or two exceptions each nation builds its own boats.

The unanimity with which foreign naval powers are developing torpedo warfare seems to prove that decided recommendations should be made with regard to torpedo-boats.

In making a report upon torpedo-boats for coast defense it seems best to start from the basis of the recommendations of a board of German naval officers, made in March last to the Reichstag. It must be borne in mind, 1st, that in 1873 a German advisory board laid down a complete programme for the reconstruction of the navy; 2d, that as this programme has been filled, it has been accompanied by constant practical tests which have led to many modifications of detail, although the main summary has never been deviated from; 3d, that no deviation has ever taken place upon theoretical considerations alone, but only after direct experiment has clearly proved that a strict adherence to the original projects was erroneous. The following extracts from the report

above referred to contain all that is pertinent to the subject under consideration:

The development of submarine mines and of locomotive torpedoes has at present reached such a point that we do not expect important advances to be made in either system during the coming year, and, such being the case, we are of the opinion that we should now acquire the best material existing for both systems. For many years we have patiently allowed other navies to take precedence of ours in this development, in order that when the proper time should come to fully equip this branch of the service we might be absolutely certain of advancing in the true direction. That time has now come, and we must cease observation and proceed at once to the complete defense of the German coast. * * * The idea which was formerly cultivated, and which was expressed in the original programme of fleet development, of having special torpedo vessels of a medium size, has not been realized, and is not recommended on account of the many obstacles presented by the attempt to satisfactorily combine speed, armor, maneuvering power, torpedo and gun power. * * * The design of providing each iron-clad with two torpedo-boats has as yet not been fully carried out, as it is considered better, if possible, to make these boats larger and more seaworthy, in order that they may accompany an iron-clad squadron as an independent attachment.

For fighting along the home coast these boats will be able not only to accompany the iron-clads but to engage in independent coast operations. For foreign expeditions, too distant to make them independently applicable, they may be transported to the scene of action on special transport ships.

Torpedoes, as well as torpedo-boats, are now manufactured exclusively in native German establishments. * * * These boats are about 98 feet in length, with very light draught, carry a complement of one officer and about fourteen men, two torpedo-dischargers, and, as a rule, two revolving cannon. They have no rig whatever, but carry coal enough to drive them 1,000 miles, at a speed of 10 knots. The few boats of this class which the German Government has possessed up to this time (eleven in all) have been well taken care of. * * * The small size and very high speed of these boats make them very difficult targets to hit, so that in this respect they possess a great advantage over heavy iron-clads. * * * It must be remembered, however, that it is not probable that the success of an operation would be made dependent upon a single shot or a single boat, but that attacks would be made by from two to six boats, attacking from different directions. It is possible, therefore, at the risk of a loss of a minimum number of men and of a few cheap and quickly-built boats, to sink a colossal war-ship in a single attack. Even in bright moonlight, and with the greatest possible care and alertness, it becomes impossible for a ship to anchor for a single night on a coast well defended by these torpedo-boats.

Numerous and well-provided torpedo-boats make a blockade an undertaking of the most difficult character. It makes it necessary for the blockading squadron to haul off the coast every night. Its coal supply is thereby wasted, the harbor is left open at night, and the actuality of the blockade is threatened. Even though under way the squadron is not safe, for the boats can follow it out and find the ships.

It is readily conceivable that in an energetic defense of this kind many boats will be disabled through accident and the enemy's fire, and therefore the total number of boats must not be limited to that barely necessary for the active work. * * * In considering this matter it is not a question of any single modification of type, or of single vessels, as would be the case with vessels of the fleet, but it is a necessity that the German torpedo flotilla should be brought up to the number of 150 boats, for coast defense, the armament of war ships, and a reserve for replacing disabled boats.

With this number the German fleet will stand first in the world in respect of torpedo defense, as is shown by the following table of torpedo-boats possessed by different nations:

England has built 22 first-class and 97 second-class, and is building 4 first-class and 6 second-class—total, 129.

France has built 13 first-class and 53 second-class, and is building 3 first-class and 7 second-class—total, 76.

Russia has built 4 first-class and 117 second class, and is building 4 first-class—total, 125.

Italy has built 18 first-class and 21 second-class, and is building 14—total, 53.

Holland has 24, Norway and Sweden 15, Austria 11, and Denmark 9. England, France, and Austria contemplate an increase in the immediate future.

The average cost of a torpedo-boat, with its torpedoes and revolving cannon, amounts to 240,000 marks (\$57,170). In order to attain this number of boats it is necessary to provide for building 115 new ones.

The opening statement and the final recommendation of this report leave no doubt whatever with regard to the opinion of German naval officers that the torpedo-boat has passed entirely beyond the experi-

mental stage, and has entered as a permanent element into the constitution of the fleet. As they say, there is no question here of types of vessels or of single ships, but the flotilla must at once be brought up to its full standard. Coming as these statements do, from a people so methodical and certain in all matters of military improvement, it would seem that an acquisition of these boats by the United States is of the *first* importance, and that action should be taken at once.

In entering into an argument with regard to the importance of this type of naval defense for our own coasts, it is necessary to have as complete an understanding as possible of the boat itself and its development. The appendix to this report contains important data, illustrating the improvements and present condition of the boats.

From these data it will be seen that the fully developed first-class torpedo-boat of to-day is in general terms a craft about 100 feet long, with a draught of from $4\frac{1}{2}$ to 6 feet of water; a capability of maintaining a speed at sea of not less than $16\frac{1}{2}$ knots; an endurance at this speed of over 150 miles, and a maximum endurance of from 650 to 1,200 miles; an armament of torpedoes and revolving cannon, and a capability of keeping the sea under all conditions of weather.

In examining the especial work of this type of boat, attention is drawn to the custom now almost universal in Europe of considering the total work of the coast defense as divided into three distinct sections, called lines of defense.

The inner line consists of the coast fortifications and other channel defenses, such as mines and permanent obstructions. Indefinite extension of fortifications, such as would render the coast difficult of access, is impracticable. The great expense of construction and maintenance limits their position to those points which are of the most vital importance to the safety of our seaboard towns. Even at these points the best armed fortifications are considered insufficient of themselves to effectually check an active enemy from doing almost irreparable damage to the places which they are designed to protect. In order to enable them to develop their full power a defense must be organized in the approaches themselves. In the cases of approaches that possess little commercial but great strategical value, these supplementary defenses may consist of permanent obstructions, blocking the channels completely and needing only such protection as shall insure against their removal by an enemy. In approaches of great commercial value, this system cannot be applied except at a period of the most dire necessity. The channels must then be defended by mines. These mines, however, must not be of such a nature as to hamper the free movements of friendly commerce or naval vessels except when the enemy is actually present, and the matter of opening or closing channels at will is one of the most difficult things to accomplish, particularly with an active enemy in the vicinity, who, by skillful countermining, may in a single night make a havoc in these defenses that it will require days and perhaps weeks to remedy, requiring resort to permanent obstructions.

In order that these important approaches may be kept open until the last moment, that time may be gained by giving warning and possibly holding an enemy in check until they may be made secure and to prevent their removal or disabling when in place, a second line of defense is rendered necessary. As it is this line which depends for its main strength and effectiveness upon torpedo-boats, I will pass to the consideration of the outer line first.

The outer line of defense consists of the sea-going fighting vessels

proper, both armored and unarmored. If an armored force appears before any important point on the coast, it must be met by a force of at least equal strength and driven off, otherwise a blockade is established. It must be borne in mind at this point that, if a channel is blocked by our own mines or obstructions, the object of a blockade is fully attained, so that an enemy is really relieved of the necessity of keeping a strong blockading force in the vicinity; and in points where his strong force is present, these mines and obstructions are a most powerful aid to that force. There are many methods of modifying this drawback, but none can neutralize it except in a very partial manner without the assistance of the middle line of defense. An enemy's force acting in squadron requires a massing of the vessels of the outer line into squadrons to act against it. An active enemy using vessels singly requires the most constant movement of the individual vessels of the outer line to keep him off. In these cases a single vessel may keep several constantly confined to one portion or stretch of coast to guard it. Thus the outer line is rendered liable at any time to be called off from even the defense of a most important point, to meet and check or drive off a concentrated movement at some other point.

Coming now to the second or middle line of defense, we find its duties to be: To inaugurate a living defense of the approaches, that can distinguish friend from foe; that shall by its mobility and strength effectually bar the way to the sudden incursions of single vessels of the enemy, thus permitting commerce to freely pass in and out up to the last moment; that shall assist the fortification to guard the mines from counter-mining; that shall leave the ships of the outer line the greatest freedom possible in movement, so that their sudden withdrawal at a call or in chase shall not leave a point open to attack; that shall finally render a blockade by the enemy a hazardous undertaking, forcing him to haul off the coast at night; and that shall prevent him from taking up a position for bombardment out of reach of the fortifications and mines, and, in case of *mêlée* on the coast between squadrons, that can advance and take part.

To keep the approaches constantly barred to the enemy and open to friends is the specific duty of the coast defense. It is of the same nature the world over, being unaffected in this respect by either the political or geographical situation of the country. In the United States, however, the importance of this part of a war programme is superior to that of all others, since in a war with any country except England or Mexico, the first attack on national territory must be on the coast, and with England the danger to the coast is greater than that to the Northern border. Naturally, then, in developing a defensive power, the coast defense should receive the first attention.

Examining the present condition of our coast defenses, it will be found that the inner line is the best provided. Whatever may be the deficiencies of the fortresses, the channel protections can quickly be made available. Technical knowledge is here of far more vital importance than actual material, and, thanks to the schools of Newport and Willets Point, the United States is in a position to hold its own with the world, so that in case of an outbreak this part of the defense could be quickly and effectually put in operation, and thus be of great service in allowing time for the full development of the other lines.

As has been shown, however, this channel protection is open to destruction by an active enemy, and requires a vigilant guard, just as much as an army requires outposts.

Attention is here called to an invention now regarded with great favor, which has been introduced in Germany, France, and Austria, and

for the purchase of which Italy is negotiating. It is a system of mines (the invention of an Austrian naval officer), that may be laid down by a vessel running at slow speed in such a manner as to effectually close an approach. The system may be taken up almost as quickly as it is laid down, and in this manner approaches may be left free until the danger is actually in sight.

Passing to the outer line of defense, it is found to be lamentably weak, although it exists to a certain degree and gives evidence of development. This line is, however, one that cannot be quickly established. Years are required to build a single iron-clad, and it is almost beyond possibility to arrive at the construction of more than one at a time during peace. With regard to the unarmored vessels, we have yet to test the amount of their value (which seems to be very great) in this line, as it will probably be several years before enough of them will be afloat to make any effective combination whatever.

The second line of defense in all navies consists of torpedo-boats, with what are known as floating gun-carriages and torpedo-gun boats as supporters. This line with us has, in point of fact, no existence whatever, although the weakness of the first line, the time required in war to strengthen that line, the innate power of the second or middle line itself, and the necessity of its existence as a guard over the inner line, all imperatively demand its development. Without the existence of an outer line the middle and inner ones can keep the enemy off, break a blockade, and frustrate operations. With the partial development of a middle line, concentrations can readily be made that will enable the inner line to be developed with the greatest speed. Without the middle line our outer line is utterly powerless to spread its support, and the inner one is in constant danger.

In scanning the coast-defense development all over Europe, it will be found that, whilst the fortresses are incomparably stronger than our own, their strengthening has been of a very gradual nature, and, as artillery improves, the rearmament of the coast forts is the last strengthening carried out.

The channel defenses, being a matter mainly of technical education, cannot be measured in its development, and in so far as the education is concerned we are not behindhand. In the outer line, our attention has been constantly turned to the construction of the great iron-clads. The fleets are large, and immense expenditures are made to increase their number.

Considering the second or middle line, we find nearly every navy in the world with a full schedule of floating gun-carriages and torpedo-gunboats, the result of a constant growth since 1869. With the torpedo-boats, however, the development becomes at once strikingly marked. In 1873 there was one builder in the world (Thornycroft). In 1883 we count as builders exclusively devoted to this work, two in England, two in France, three in Italy, three in Germany, two in Russia, and one in Austria. To induce such a rapid increase there must be a powerful support. Within the past year we find Government orders given for not less than 90 first-class torpedo boats of over 90 feet length. Finally, we find the youngest and most enterprising naval establishment of the world (Germany) devoting almost one-fourth of its entire naval appropriation (\$4,000,000) to the immediate construction and equipment of 70 torpedo-boats, with an additional demand for 45 more to be constructed as soon as these are finished.

It is evident, therefore, that in our naval development the coast

defense is of vital importance, and that the middle or torpedo-boat line requires the very first attention.

In determining the amount of material and its cost necessary for an efficient constitution of this second or middle line, it seems best to first make an estimate of the war strength absolutely requisite. Having this and knowing the time required to build and fit out a single element, the requisite peace strength may be deduced which is necessary for creating sufficient technical and practical skill for war emergencies, and for distributing a proper degree of building skill which will make it possible to quickly raise the strength from a peace to a war footing.

The first step in this investigation is evidently the most difficult one, as, aside from the fact that ideas differ widely as to what the United States should consider a war strength in any detail, positive experience is lacking as to the exact strength of the individual torpedo-boat as measured by its capability of keeping the vessels of an enemy at a distance.

In making an estimate the following limitations have been observed:

1st. Weight has been given to the probable support of gunboats, vessels of the outer line, and steam-launches in support of the torpedo-boats during their different services.

2d. Only the defense of the most important commercial centers, naval depots, and entrances to water routes are allowed for, and the torpedo-boats are supposed to be collected in divisions at these points to perform work in the immediate vicinity. Such would certainly be the first disposition on the outbreak of war.

3d. The divisions are supposed to be able, at need, to furnish a certain amount of mutual assistance and re-enforcement within certain limits, these limits being the boundaries of coast defense districts, and the divisions thus furnishing mutual support forming independent flotillas.

4th. Three boats are considered as forming the smallest division that can do effective work under the majority of circumstances.

5th. The mean size of these boats is considered to be represented by the French and German 98-foot boats, which are the smallest ones thoroughly capable of acting independently in all weathers and positions. In estimating the complements required for these boats, one officer is allowed to each, a full crew of fourteen men to each active boat, and half crews to each reserve one.

The reasons governing the assignment of certain numbers of boats to each division have been carefully considered, and each number has been fixed only after a careful consideration of the circumstances connected with the defense of each place. The summary is as follows:

Estimate of minimum war strength in torpedo-boats required for the coast defense of the United States.

Districts.	Divisions.	Boats.		Officers.	Men.
		Active.	Reserve.		
1st.—Gulf of Maine....	Portland	8	1	4	49
	Boston	4	4	8	84
	Cape Cod Canal.....	3	1	4	49
	Flotilla strength	10	6	16	183
2d.—Long Island	Buzzard's Bay.....	4	1	5	63
	Narragansett Bay	4	4	8	84
	Long Island Sound	4	1	5	63
	New York Bay.....	8	4	12	140
	Flotilla strength	20	10	30	350

Estimate of minimum war strength of torpedo-boats, &c.—Continued.

Districts.	Divisions.	Boats.		Officers.	Men.
		Active.	Reserve.		
3d.—The Bay	Delaware Bay	8	4	12	140
	Chesapeake Bay	8	4	12	140
	Flotilla strength	16	8	24	280
4th.—The Carolina	Wilmington	8	1	4	49
	Charleston	8	1	4	49
	Savannah	8	1	4	49
	Flotilla strength	9	3	12	147
5th.—The Gulf	Florida Keys	8	4	12	140
	Pensacola	3	1	4	49
	Mouths of Mississippi	6	2	8	98
	Galveston	8	1	4	49
	Flotilla strength	20	8	28	336
6th.—California.....	San Francisco Bay	4	4	8	84
7th.—Northwest.....	Columbia River	8	1	4	49
	Puget Sound	8	4	12	140
	Flotilla strength	11	5	16	189

Accepting 90 torpedo-boats as the minimum number to provide effective means of defense in time of war, to what extent may this number be economically reduced and still render it possible to attain the full strength in time to prevent an enemy from profiting by the reduction?

In the first place, all wars that have occurred, during the past fifty years certainly, have practically proved that naval hostilities produce decisive results in less than three months from the outbreak of hostilities. Secondly, in order that boats should be built with adequate rapidity, a knowledge of the special building requirements is absolutely necessary, and this knowledge scarcely exists with our mercantile builders at present. Thirdly, the effective management of these boats, and the peculiar nature of the service, make of it an important specialty of the naval officer's profession. This special knowledge can only be obtained by extended practice, and falls entirely outside of the capabilities of those who have not received a thorough practical training. In case of a war, when the *personnel* of the Navy would be suddenly increased, neither the volunteer fireman, machinist, nor officer would be fitted to the *personnel* of this branch must be made up of picked men, thoroughly trained. Lastly, to superintend the very rapid building of these boats officers and men must be detailed to watch and superintend the construction, that they may be familiar with every detail.

To determine a peace strength that will furnish the necessary instruction to builders and *personnel*, the reserve may be struck out without disabling the force, and the points to be defended may be divided into two categories according to the degree of importance and probability of attack within the time allowed for strengthening the entire flotilla. By withdrawing the defense of the points of the second category, leaving them to the defense of the inner line, with a chance of aid from the

boats retained in the first category, the following reductions may be made:

Flotilla strength.	Division.	No. of boats.
First district	Boston	4
Second district	Narragansett and New York	12
Third district	Delaware and Chesapeake (one-half)	8
Fourth district	Charleston	3
Fifth district	Mississippi	3
Sixth district	San Francisco	4
Total .....	.....	34

This estimate gives a peace strength equal to less than one-fourth of the war strength, and this strength properly handled could, without doubt, make itself of inestimable value in keeping an enemy at a respectful distance during the first months of preparation.

Thirty-four boats being considered the least number proper for a peace establishment, the highest interests would seem to be served in providing them at once, as is the case with Germany. But our builders (having had no experience in this work) could not meet such a demand, and it would be very difficult to secure a sufficient appropriation for the object. A sufficient number, however, should be purchased from European manufacturers to serve as models and to provide a sufficiently large flotilla with which to commence the training of officers and men.

In this way not only is a boat of the most improved pattern in every respect secured, but, what is of more value, working drawings will be secured which would be of the greatest aid to builders. Again, provision must be made in arranging for building ourselves, to as far as possible gain the power for each coast district to provide its own boats. The immense extent of the coast and amount and variety of the work to be done in establishing a thorough defense makes this all-important.

Very respectfully,

EDWARD W. VERY,
Lieutenant, United States Navy.

Hon. WM. E. CHANDLER,
Secretary of the Navy.

REPORT OF THE CHIEF OF THE BUREAU OF ORDNANCE.

BUREAU OF ORDNANCE, NAVY DEPARTMENT,
Washington City, November 10, 1884.

SIR: I have the honor to submit the annual report of this Bureau, and also to transmit estimates for the fiscal year ending June 30, 1886:

1. Fuel, tools, material and labor, small-arms, machine guns, batteries of the new type for four third-rate ships now in service; establishment of a proving and ranging ground; modern armament of two practice ships for the training squadron and for proof of naval guns and appendages	\$256,715 00
2. General repairs to ordnance buildings, magazines, and appendages.	16,000 00
3. Freight and miscellaneous expenses	5,000 00
4. Civil establishment at navy-yards	11,217 25
5. General expenses of the Torpedo Station and purchase of a torpedo-boat, &c.	115,000 00

6. To supply the ordnance outfits of the monitors Puritan, Terror, Miantonomoh, Amphitrite, and Monadnock.....	\$1,073 000 00
7. To continue the development of type guns for the Navy	310,000 00
8. Main and secondary batteries for the New York	300,900 00
9. Armament of the twelve new vessels proposed by the Navy Department	1,701,018 00
	<hr/>
	4,388,850 25

CANNON.

TYPE GUNS.

In prosecution of work on type guns for the Navy, the first 6-inch gun was completed February, 1884, and was sent to the Naval Ordnance Proving Ground, Annapolis, Md., with several gun-carriages of different patterns, and a quantity of cast-iron shells having rotation bands of various diameters.

All the carriages performed well and demonstrated their capacity to sustain the shock of discharge of high-power 6-inch guns.

The shells, as a rule, performed satisfactorily, and one class, which showed great smoothness of flight on the trajectory (with moderate and uniform action in the bore), was selected as the service type for the 6-inch caliber common shell. (See Appendix, report of Lieut. Commander W. M. Folger, which also shows the trajectory of the first 6-inch gun now on the Dolphin.)

The gun has thus far been fired 150 rounds with charges of about one-half the weight of the projectile.

It has been frequently and carefully examined and star-gaged and no defect has yet been discovered in it. The principal wear is at the compression slope, being about .018 inch on the radius.

It is considered that the general features of construction adopted in this piece are suitable for service high-power hooped guns of 6-inch caliber.

In the matter of powder, the Bureau has been working up the proper density and size of grain for the 6-inch caliber.

Some classes have shown want of uniformity in results, but others have done very well, and it is thought that perfectly satisfactory specifications may soon be fixed upon.

A quantity of German cocoa (or brown prismatic) powder was purchased by the Bureau from the manufacturers in Germany, and was brought over by the U. S. S. Powhatan. It has given very promising results in the 6-inch gun.

It having been found that steel tubes and jackets for the 8-inch high-power guns could not be produced in the United States, the Bureau was obliged to buy some abroad for the new cruisers.

One gun will be pushed forward as rapidly as possible for trial as a type. The general design* is the same as that of the 6-inch gun before mentioned.

Owing to the delay of the contractors in delivering the hoops for the 8-inch caliber, the construction of the type gun has been very much delayed.

The hoops have now been delivered, and as rapid progress as possible is being made in their treatment and preparation to go on the gun.

The 10 inch, 10½-inch, and 12-inch high-power hooped guns have been designed since last report, and longitudinal sections of them will be found appended. (The guns of lower caliber than these were illustrated in last year's report.)

* For drawing of the 8-inch guns, see appendix to report of Bureau of Ordnance for fiscal year ending June 30, 1883.

These new guns will be all somewhat longer in the bore than the calibers heretofore designed, and are expected to develop more power relatively. The weight of the shot is to be 500, 550, and 850 pounds, and that of the charge 250, 275, and 425 pounds, respectively.

The data for a 16-inch hooped gun are collected, and it is expected that computations for the design will shortly be made.

Considerable progress has been made towards the construction of a wire-wound gun of 6-inch caliber on the design appended to last year's report.

The Bureau has unfortunately been unable as yet to obtain any high-grade wire of American material and manufacture. Considerable experience with different kinds of wire has, however, been acquired, and a sufficient amount of tolerable quality was purchased and is being placed on the type gun.

This wire is laid with varying tension, and the calculated resistance of the piece to tangential rupture is equal to that of the hooped gun, while it weighs about 1,000 pounds less. (See Appendix, page 431.)

This design of a 12-inch wire-wound gun has been commenced.

Gun-wire of high grade and in very long pieces is made by several firms in England, and there is apparently no practical difficulty in its manufacture, and no reason (except the absence of drawing machinery of sufficient power) why it should not be made in the United States. The calculations involved in the work of designing the type guns were made by Ensign Philip R. Alger, U. S. Navy. Those for the application of gun-wire with varying tension are exceptionally intricate. The services of this young officer have been very valuable to the Bureau.

While proving great guns, the Bureau has tried several new forms of spring-firing apparatus. Two of these promise very well, and will be attached to the guns of the new cruisers.

The steel vent-closing primer to go with the apparatus is of peculiar form and has thus far given entire satisfaction.

Two forms of electric vent-sealing primers have also been designed and promise well.

All these will be found figured and described in the Appendix, pages 437, 438, and are due to Lieutenant-Commander Folger and Lieuts. Bradbury and Fiske, U. S. N.

GAS CHECKS.

As a result of experience on the proving-ground, appendages and attachments for working service breech plugs by hand have been designed for all calibres to 10-inch inclusive. Drawings of the various forms of closure will be found in the Appendix; page 438, and following. These details have been largely worked up by Lieut. A. R. Conden, U. S. N.

The breech-plugs of the heavier guns will be worked by hydraulic power as usual.

In the course of the proof of the 6-inch gun extensive trials have been had of the De Bange gas check. For some time the results were not very satisfactory. The apparatus checked gas well, but stuck so hard in its seat that it was very difficult to withdraw, and the rings that depressed the pad cut the latter badly at high chamber pressures.

These difficulties seem to have been overcome, and the form of gas check now used (which is inclosed by steel rings instead of bronze and tin) works admirably, one man opening the breech of the 6-inch gun (after firing large charges) without difficulty. An account of the forms of check and rings used, with drawings, will be found in the Appendix, page 439.

GUN CARRIAGES.

A type of carriage for the broadside guns of the new cruisers and also for general service has been finished and has given very good results at the Proving Ground.

It is built of steel and is of the gravity return type with hydraulic recoil-check, arranged to maintain constant pressure in the cylinder.

Previous to the construction of this type, two other designs were built, one to run in and out by fluid pressure conveyed from an accumulator below the water line, and the other to run out by hydro-pneumatic action. They both performed very well, but are not quite as convenient and simple as the form adopted for the cruisers.

Several designs for training by fluid pressure were also completed; but it was evidently inexpedient to place them upon so small a carriage as that for the 6-inch gun.

Designs for the 8-inch carriages of the Chicago, Atlanta, and Boston have also been completed and part of the material ordered and some delivered.

Drawings of the carriages of the new cruisers will be found in the Appendix. The details of this work are largely due to Lieut. B. H. Buckingham, U. S. N., who also designed the tower mounts for the Hotchkiss revolving cannon to be carried by these vessels.

Drawings of the carriages that are operated by fluid and hydropneumatic pressure are also given in the Appendix.

The designs for gun-carriages of monitors have been very much advanced and can soon be completed.

These carriages are to work by hydraulic pressure and will be accompanied by loading apparatus, which works by the same power.

The above-mentioned carriages (except that for turret guns) are arranged to carry simple inclined steel shields.

PROJECTILES.

Cast-iron common shell with copper rotation bands have been designed for all classes of guns. Those fired from the 6-inch gun have performed very satisfactorily as before mentioned.

A number of steel common shell have been cast and will be proved as soon as practicable.

Shrapnel have been designed for the 6-inch B. L. R. and also for the 8 inch M. L. R. A number of the latter have been manufactured and will be soon fired.

In the matter of armor-piercing projectiles, considerable progress has been made. Six-inch steel shells of various physical characteristics have been fired against armor plates and a limit of quality has been found, below which it is useless to go. Furthermore, the shades of temper for head and cylinder of such projectiles have been sufficiently experimented upon to indicate a temper very near to that which will probably be found most effective in service.

The best form of head has also received much attention, and several new shapes have been tried; one of them proposed by Lieut. Commander W. M. Folger promises good results against vertical or moderately inclined armor. For work against armor very much inclined the flat head seems thus far to be the most effective.

Most of these experiments have been carried on with pieces of small caliber, such as the high-power musket, the revolving cannon and the 3-inch B. L. Howitzer.

The different forms of head, ogival, trifaced, stepped, flat, &c., will be found figured in the Appendix, page 441, accompanied by the detailed reports.

Besides the practice against soft steel plates, very important trials have been had from the Hotchkiss revolving cannon against compound steel hard-faced plates, using the trifaced tempered projectiles. The report will be found in the Appendix, page 443.

The performance of the projectiles was very satisfactory, and the practice will be repeated on a larger scale as soon as possible.

MACHINE GUNS.

Quite recently the Hotchkiss 57^{mm} and 47^{mm} single-shot guns mentioned in the last report have been received. They will be sent to the Naval Ordnance Proving Ground for trial.

Guns of this type will make a notable addition to the power of naval armaments. They are capable of being fired in ordinary service from twelve to fifteen times a minute, and the projectiles, having a high velocity, are effective against all unarmored ships, and are reported to penetrate from four to five inches of soft steel (placed normally) at short range.

The number of machine cannon mounted on foreign vessels of war is constantly increasing.

Exercises in volley firing with the Gatling gun at sea have been continued, and are highly instructive as an exhibit of the low percentage of hits that may be expected when such guns are fired on board of vessels in a sea-way by men not specially trained.

The results emphasize the necessity of specialists in the batteries of ships of war, and the experiments will be continued at greater length under the conditions of actual service.

The new Gatling guns lately ordered for the steel cruisers are to be furnished with the improved feed recently adopted by the company. This arrangement permits high-angle fire to be delivered, which will add greatly to the value of the piece, as it is certain that curved fire will be a prominent feature in future combats.

SMALL-ARMS.

There has been no marked development of service small-arms since the last report.

The left-hand movement gun has been improved, and is manufactured as a sporting gun, but is not yet offered in the market as a military rifle.

Seven hundred Lee magazine rifles were bought lately on advantageous terms for the armament of the new cruisers.

The Bureau now furnishes a superior woven-loop cartridge belt, carrying one hundred cartridges in two rows, with four pockets for Lee magazines. This belt is supported by convenient shoulder-straps, and is considered a great improvement over the old styles.

Sailors when landed for service are now furnished with regulation knapsacks and canteens, which are purchased from the Ordnance Department of the Army. This addition makes the outfit of the seamen, when on shore, much more complete and comfortable than it formerly was.

HIGH-POWER MUSKET.

This piece is by far the most notable development of small-arms that has taken place this year. It is the design of Lieut. Commander W. M.

Folger, inspector-in-charge of the Naval Ordnance Proving Ground, who first called attention to its merits.

By enlarging the chamber of an ordinary Lee magazine rifle in very much the same way as the modern high-power great gun has been developed, Lieutenant-Commander Folger has produced a piece which, furnished with a steel bullet of his design, pierces at short range $\frac{3}{4}$ of an inch of soft steel placed normally, and $\frac{1}{2}$ of an inch placed at an inclination of 45 degrees.

The muzzle velocity varies with the charge and projectile from 1,800 to 2,026 feet per second; that usually obtained in the ordinary military rifle is about 1,350 feet per second.

This performance for a .45 caliber piece is certainly extremely satisfactory, and plainly indicates what we may expect from the musket in the future.

The piece now in use is discharged from a pivoted rest not unlike that which was formerly used with rail pieces, and it is probable that the high-power musket will ultimately be employed with such a mount on ship-board.

The reports on this matter will be found in the Appendix, page 453.

CLARK'S DEFLECTIVE TURRET.

An act of Congress having directed trials to be made of Clark's Deflective Turret, under the direction of the Naval Advisory Board, it became the duty of the Bureau (as a matter of routine) to procure the armor for the target and to have the structure erected and prepared for trial.

Accordingly, after some correspondence, the steel plates for the target were ordered of the Messrs. Schneider & Co., Creusot, France, and the wooden part of the structure of the Pusey & Jones Company of Wilmington, Del., which firm is also to join and erect the whole target. The steel plates have arrived and are in possession of the latter company.

The Bureau has not been able to advance a 10-inch gun far enough to be probably ready to fire against this target as soon as completed, and to use a gun of less caliber would be to unduly favor the target. It is thought that a 10-inch gun can be prepared in about six months.

SEAMEN GUNNERS.

The instruction of seamen gunners at the Ordnance Department of the Washington navy-yard is continued, and a number of these young men have received a training which will contribute very greatly to their future usefulness in the service.

It is proposed to send a class to the Torpedo Station as soon as convenient.

THE ARMAMENT OF THE NEW VESSELS.

Since last report contracts have been made for steel forgings for one 10½-inch, eight 8-inch, and twelve 6-inch guns, also for the rings for the jackets and tubes of the two 10-inch guns ordered by the Bureau in the previous year.

The forgings for the 6-inch caliber were ordered of the Midvale Steel Works, Nicetown, near Philadelphia. Those for the 8-inch guns were ordered in England, part from Charles Cammell & Co., of Sheffield, and part from Sir Joseph Whitworth & Co., of Manchester, and they are to

be used in manufacturing the armament of the steel cruisers now in course of construction.

The Midvale Steel Company has completed the eight sets of 6-inch forgings ordered last year and has made good progress on the twelve sets since ordered, having cast and hammered all the large pieces and oil-tempered some of them. This work is now being pressed by the company.

The steel thus far presented has, as a rule, been satisfactory in quality—the rings being particularly successful and quite equal to any that have been obtained from abroad. The Midvale Company has lately put in an oil tempering plant, and now use oil treatment with all their 6-inch gun forgings.

Very great delay has been experienced in obtaining some of the 8-inch forgings from England. Charles Cammell & Co. have delivered most of the jackets and tubes ordered from them. Sir Joseph Whitworth & Co. have delayed very much in the delivery of their steel, and the greater part of it has not yet come to hand, neither is it certain when it can be expected. Having no plant of our own capable of producing 8-inch forgings, we are, of course, at the mercy of the foreign manufacturers in the matter of time.

Three of the Cammell tubes and jackets have been put together, and the rings furnished by the same company are being oil-treated, preparatory to being placed on the guns.

The ordnance machine-shops at the Washington Navy-Yard are at last commencing to receive steel forgings in sufficient number to enable the inspector to prosecute work to advantage, and the activity at the yard will increase considerably within the next few months.

One 6-inch gun of the general type to be used in the cruisers has been finished, and has had an extended trial and use at the Naval Ordnance Proving Ground, Annapolis, Md.

This gun is for the Dolphin, and has fired about 150 rounds with large charges of powder of different specifications and projectiles of 100 pounds weight. Its performance is very satisfactory. It has been ranged, and shows a very flat trajectory, with great smoothness of flight of the projectiles. (See Appendix).

The Bureau has made contracts for machine-finishing guns with two private firms, the South Boston Iron Works and the West Point Foundry Association. The former firm has received two sets of 6-inch forgings and has commenced work on them. The Bureau has not yet been able to furnish any to the West Point Foundry, but expects to do so ere long.

Owing to the delays and difficulties inseparable from the commencement of a work of such magnitude as the fabrication of steel high-power guns in the United States, the armament of the new cruisers cannot, under the most favorable circumstances, be completed until some months after the vessels are finished.

This fact was foreseen and many times represented when the construction of the cruisers was first proposed. Every exertion has been made to forward the work since then—designs were prepared in ample time and have not since been changed; but the difficulty of procuring material of the proper quality has been very great and has called for considerable patience.

The failure of Congress at its last session to appropriate promptly for the armament of the cruisers entailed an additional delay. Though the entire batteries of the vessels cannot be ready in time, the Bureau will be able to put part of the new guns on the ships when the latter are ready.

The secondary batteries and search-light outfits of the cruisers were ordered long since and are expected to arrive in time for the vessels.

Suitable circuits for electrical firing of the guns of the new cruisers have been laid out, and a plan of those intended for the Atlanta and Boston will be found in the Appendix, page 438.

A metallic powder tank (or cylinder) has been designed for the long heavy cartridges for the high-power guns of these vessels. Each tank contains one charge. It will be found figured in the Appendix. Each end of the cylinder is covered by a simple overlap top, cartridge paper being shellaced around the joint to make it water-tight. A cord lies in the joint under the paper, and the end (projecting) is used for tearing the paper when the covers are to be removed. This paper band is strong enough to sustain a much greater weight than the tank and its cartridge.

ARMAMENT OF THE PROJECTED SHIPS.

Agreeably to your directions, I have added to the other items an estimate of the amount of money required to arm certain vessels the construction of which was proposed to Congress during the last session. The amounts are computed from the best information available to the Bureau, and it is thought will be sufficient. The nature of the armament of these ships was determined by the Naval Advisory Board, except that of the armored cruiser of 8,500 tons, in which case, as the Board had not designated any battery, the "Riachuelo" type was adopted by the Bureau as a basis to estimate upon.

ARMAMENT OF THE DOUBLE-TURRETED MONITORS.

Estimates for the armament of the double-turreted monitors Puritan, Amphitrite, Monadnock, and Terror are also inserted. They are the same as those submitted last year, and are urged for the same reasons that were then given.

NEW NAVAL ORDNANCE PROVING GROUND.

The space at our disposal at Annapolis, Md., for an ordnance proving ground is too restricted for the present and prospective development of naval ordnance. The neighborhood of farm houses, of the light-house, and of the city of Annapolis make it somewhat dangerous to fire into the butt with projectiles from high-power guns, but the chief objection to the place is the fact that the range (which is over water) is often rendered useless by the presence of fishing boats, oyster boats, and other craft upon it and in dangerous proximity to it; and is further embarrassed by the neighborhood of the light-house near the battery and of a large hotel about half way down the range.

The boats and other craft cause great delays in the work on the range, as they often obstruct it for days, and furthermore there is danger that one may not be seen on the more distant parts of the range, and perhaps be struck by a projectile, while the light-house and hotel are in danger from pieces of shell or from projectiles accidentally leaving the trajectory by reason of imperfect rotation or from other causes.

A range over water is not as convenient as one over land, and all projectiles fired upon it are lost. Furthermore, it is not possible to observe the action of the percussion fuzes (nor, in fact, that of the time fuzes satisfactorily at Annapolis) on the more distant parts of the range, neither can the rotation bands of projectiles be examined after flight.

For these reasons the Bureau has inserted an estimate of \$57,000 for the purchase of a proving ground, and requests that the money may be made immediately available.

EXPERIMENTS WITH HIGH EXPLOSIVES.

During the last session of Congress the idea was advanced that the effect of a moderate weight of dynamite exploded in contact with the plates of a modern armored ship would be disastrous to the vessel, crushing in the side, &c.

A number of experiments were undertaken by the Bureau for the purpose of ascertaining the effect of various charges of dynamite and gun-cotton on armored targets.

Charges of these explosives varying from 5 pounds to 100 pounds in weight, were hung against a vertical target and exploded.

The target was composed of 9 layers of 1-inch wrought-iron plates, strongly backed with 20 inches of wood, and braced so as to represent as well as conveniently practicable the stiffness of the sides of a ship.

The details of the experiments will be found recorded at length in a report from Lieutenant Commander Folger (Appendix, page 467); the result being that no material injury occurred to the vertical target, though much more work was performed against it than would be likely ever to be performed against a single spot on the armored side of a ship.

It was also shown that even were a considerable charge exploded in contact with the plates at the water-line, the effect would not probably be materially increased.

The effect of 26 pounds of gun cotton exploded on top of a horizontal plate (three 1-inch layers), representing roughly an armored deck, was very good, the plate being considerably shattered.

In the course of these experiments it was apparently shown that the point at which a charge of high explosive is ignited (with reference to the target) has an important effect on the amount of work done.

Lieutenant-Commander Folger readily increased or diminished very materially the effect of his charges accordingly as he ignited them on the side away from the plate or on the near side, and this notwithstanding the fact that the distance between the points of ignition in the two cases was only about a foot (the charge being 75 or 100 pounds). This result brings out strongly the fact that the mass of the charge itself, before explosion, cannot furnish any tamping effect; but that to produce the greatest effect the ignition must be at some interior point, well toward the rear. It also appears that the effects do not increase proportionally to the increase of the charge, the ignition surface remaining constant.

The gradual ignition of the charge, and the tamping effect of the expanding gases produced by igniting at the point most distant from the target, was strikingly illustrated by the fact that when 26 pounds of wet compressed disks of gun cotton were piled upon an iron plate and exploded from the top (without any tamping or cover) accurate impressions of the lower disks in the pile were stamped upon the iron beneath them. In this case there did not seem to be the least doubt concerning the complete explosion of the charge. Lieutenant-Commander Folger's conclusions as to the effect of the point or points of ignition of charges of high explosives are most important in their bearing upon the question of the effect of such charges.

Experiments were continued at the Naval Ordnance Proving Ground touching the firing of gun-cotton shells from ordinary rifled cannon. Twelve rounds of shells loaded with compressed gun-cotton were fired from the 12-pounder howitzer, and thirteen rounds were fired from the 80-pounder breech-loading rifle, all with service gunpowder charges in

the gun. The shells flew over the range as usual, and no accident of any kind occurred (see Appendix, page 467).

Three unfuzed shells, charged with gun-cotton, were fired from the 80-pounder at the same target as had been used in the contact dynamite experiments. The shells exploded with great violence on impact, as shown by the number of fragments recovered, but the damage to the target was very slight, explosion taking place before any practical penetration had occurred.

A number of gun-cotton shells were exploded at rest, on the ground, by means of such fuzes as are used in ordinary gunpowder shells.

In view of recent successful experiments at the Naval Ordnance Proving Ground, with a fuze designed to effect the explosive combustion of wet gun-cotton, the Bureau has under consideration a plan of a piece proposed by Lieutenant Commander Folger which is intended to project an aerial torpedo charged with 100 pounds of wet gun-cotton to be exploded over or upon the deck of an enemy's vessel. There does not appear to be great difficulty in accomplishing the successful development of such a piece, which would become an effective factor in our naval armament, especially for harbor defense or smooth-water work (see Appendix, page 467).

TORPEDO SEARCH LIGHTS.

A complete set of Mangin's projectors, with Gramme dynamos, Brotherhood engines, and the necessary appurtenances and connections have been ordered for each of the new cruisers.

The projectors are now being prepared by Messrs. Sautter, Lemonnier & Co., of Paris, France; the engines by Mr. Peter Brotherhood, of London, England. The dynamos and motors for the ships are to be mounted on one bed-plate, the engines being connected direct. Besides these, two projectors have been procured for the general service.

TORPEDO TRIALS.

Congress having passed an act (during the session before last) directing a competitive trial of torpedoes adapted to naval warfare (the trial to take place before a board designated by the honorable Secretary of the Navy), this Bureau sent notices regarding the matter to the prominent torpedo manufacturers and inventors in this country and in Europe.

When the time for the trial approached the fact was further advertised by the Department in the principal newspapers of the United States, and inventors and manufacturers were thus publicly invited to present themselves before the Board.

Only three persons complied with the invitation. The American Torpedo Company presented their directive torpedo, usually known as the Lay-Haight; Mr. Asa Weeks presented a rocket torpedo, and Commander John A. Howell, U. S. N., presented an auto-mobile torpedo.

The trials of these weapons took place chiefly in Hampton Roads, Va.; the result being that the Board did not recommend any of them, finding them "not adapted to naval warfare," in the sense that they were not adapted for use in action between ships of war at sea.

Besides the torpedoes that were brought before the Board at Hampton Roads, it witnessed the performance of the Sims Electrical torpedo at Willets Point. This was not considered as adapted to naval warfare.

In its report the Board spoke highly of the performance and probable capabilities of Commander Howell's torpedo, and the Bureau has since undertaken the manufacture of three of these weapons, being strongly

impressed with the value of the principal features embodied in the design. The cost of this torpedo is quite moderate and its construction is comparatively simple.

The report of the Torpedo Board will be found in the Appendix, page—.

Lieut. B. A. Fiske, U. S. N., has proposed a gun-torpedo to be discharged over water, and on arrival at the hostile ship to drop under water and explode, with the advantages of water tamping and more effective position as regards the enemy's armor. It is described in the Appendix, page 484.

An ingenious plan for an electrically controlled torpedo (proposed by the same officer) is also shown in the Appendix, page 512.

SWIFT TORPEDO-BOAT.

The purchase, in Europe, of the swift torpedo-boat recommended in last year's report is again respectfully urged.

The fact that the Department proposes to ask for two of these boats to be built in our country does not militate against the policy of purchasing one from one of the most celebrated firms abroad. No experience has been had in this country in building such boats. The one obtained in Europe would doubtless furnish our builders with many good practical suggestions, and as a large number of these craft must be ultimately built, the expense of purchasing one *now* is not very onerous.

The purchase of twenty-five auto-mobile torpedoes and one set of launching apparatus, from Messrs. Whitehead, is mentioned in the estimates in connection with the swift boat.

This purchase has been urged for the last two years, and the Bureau must continue to urge it until a weapon of equal value is produced in the United States.

The Whitehead torpedo is very far from being perfect, but it is the only practical auto-mobile torpedo now in use on the ships of war of naval powers.

INTERNATIONAL ELECTRICAL EXHIBITION.

The Bureau participated in the late International Electrical Exhibition of the Franklin Institute at Philadelphia, Pa.—Lieut. B. A. Fiske being in charge. His report will be found in the Appendix, page 509. It presents many interesting facts and useful proposals and suggestions. A number of the projects he advocates had already been undertaken by the Bureau, as they were evidently in the direction of progress.

TORPEDO STATION.

The torpedo station has remained in charge of Capt. T. O. Selfridge, U. S. N., and has been employed in the development of gun-cotton spar torpedoes and of torpedo material generally.

The gun-cotton manufactory has been entirely finished, and is at work providing a store of this excellent explosive for the use of the Navy. It is impossible to overrate the value and importance of this the only manufactory in our country of the principal high explosive for military uses, and the one which, by common consent abroad, has been adopted for torpedoes on account of its safety.

It is thought that the product of this factory is fully up to the European standard, and the amount turned out will be enough for present needs.

Considerable progress has been made in the manufacture of the gun-cotton spar torpedo, and of the fittings connected with it.

A number of valuable experiments have been made on the comparative power and usefulness of various search-lights, and of the dynamos and engines therefor.

A complete description of the different apparatus, with a report of the trials, will be found in the Appendix, page 494.

These experiments will be continued to determine, if possible, the real value of search-lights and of the different types of apparatus.

Instruction has been given to the usual class of officers, and their attention and proficiency was considered very satisfactory.

The report of the Board which witnessed the examination will be found in the Appendix. It recommends certain changes in the methods of instruction, &c., which had long before engaged the attention of the Bureau and of the station. Their views are considered in the main correct, and efforts have been for some time in progress to accomplish what they recommend.

As mentioned in last year's report, a change in the course of instruction was inaugurated this year whereby an opportunity was afforded a limited number of the students to pursue a longer and more special course after conclusion of the regular (or general) course. This practice will be continued and it is thought that it will be highly beneficial.

The course of instruction for gunners was resumed this year, and the officers who attended were reported by Captain Selfridge to have acquitted themselves well.

Extracts from Captain Selfridge's report will be found in the Appendix, page 484.

I am, sir, your obedient servant,

MONTGOMERY SICARD,
Chief of Bureau.

HON. WILLIAM E. CHANDLER,
Secretary of the Navy.

REPORT OF THE CHIEF OF THE BUREAU OF MEDICINE AND SURGERY.

NAVY DEPARTMENT,
BUREAU OF MEDICINE AND SURGERY,
Washington, D. C., November 1, 1884.

SIR: I have the honor to submit the annual report of this Bureau, together with estimates of the amounts required for the fiscal year ending June 30, 1886.

The tabular statements of sick, &c., have been compiled from the reports of sick from the several naval stations within the United States and from vessels on the home and foreign stations for the year ending December 31, 1883. The ratio of the mortality for the year 1883 is 4.55 per thousand of force. This is a very slight increase over the average mortality of previous years, the mean death rate for the last fifteen

years being 4.40 per thousand. There is a notable absence of any epidemic influences as increasing the ratio of death.

GENERAL AGGREGATE.

[Total force afloat, 9,074.]

Classification of diseases.	Remaining from last year.	Admitted.	Discharged to duty.	Invalided.		Died.	Remaining at the end of the year.	Total number of sick days.
				To hospital.	From service.			
Zymotic diseases.....	10	1,110	984	59	.....	12	15	5,272
Constitutional diseases.....	22	984	866	184	.....	1	20	10,813
Diseases of the nervous system.....	3	480	414	66	.....	6	4	2,086
Diseases of the eye.....	2	117	87	10	.....	.....	2	1,182
Diseases of the ear.....	.....	52	48	4	1	.....	.....	285
Diseases of the teeth.....	.....	25	26	.....	.....	.....	.....	75
Diseases of the circulatory system.....	2	68	22	22	.....	4	1	1,020
Diseases of the respiratory system.....	23	902	783	129	3	6	11	7,822
Diseases of the digestive system.....	11	1,421	1,316	58	2	2	20	6,282
Diseases of the genito-urinary system.....	10	631	519	64	6	.....	20	7,898
Diseases of the locomotive system.....	2	45	34	9	.....	.....	4	600
Diseases of the integumentary system.....	19	886	861	27	.....	1	18	7,842
Diseases of the absorbent system.....	6	150	122	24	1	.....	9	2,080
Non-malignant tumors and cysts.....	.....	13	8	5	.....	.....	.....	126
Poisons.....	4	144	140	7	.....	.....	1	864
Violent diseases and deaths.....	33	1,517	1,425	74	1	14	20	12,082
Fetigued diseases.....	.....	2	3	.....	.....	.....	.....	10
Total.....	172	8,560	7,024	850	34	45	100	69,928

REPORT OF VACCINATION.

	Successful.	Unsuccessful.
No evidence of previous examination.....	386	520
Presenting good vacatrices.....	1,051	1,560
Evidence of former attack of small-pox.....	22	137

AGE TABLE.

	15 to 25.	25 to 35.	35 to 45.	45 to 55.	Over 55.
Average number on board.....	4,536	3,819	1,404	471	124
Number sick.....	4,232	2,744	1,163	440	145

Daily average number of sick.....	191+
The daily average each case was under treatment.....	5+
Admissions per thousand of mean strength.....	22+
Invaliding per thousand of mean strength.....	20+
Deaths per thousand of mean strength.....	4+

Ratio per thousand of admissions for each class of disease.

Zymotic diseases.....	114
Constitutional diseases.....	103
Diseases of the nervous system.....	50
Diseases of the eye.....	12
Diseases of the ear.....	5
Diseases of the teeth.....	2
Diseases of the circulatory system.....	7
Diseases of the respiratory system.....	34
Diseases of the digestive system.....	145
Diseases of the genito-urinary system.....	65
Diseases of the locomotive system.....	4
Diseases of the integumentary system.....	92
Diseases of the absorbent system.....	15
Non-malignant tumors and cysts.....	1
Poisons.....	15
Violent diseases and deaths.....	167
Total.....	603

REPORT OF THE SECRETARY OF THE NAVY.

555

*Estimates of appropriations required for the service of the fiscal year ending June 30, 1886,
by the Bureau of Medicine and Surgery.*

Detailed objects of expenditure, and explanations	Estimated amount which will be required for each object of expenditure.	Amount appropriated for the current fiscal year ending June 30, 1885.
<i>Salaries.</i>		
Chief clerk (act of July 7, 1884), R. S., p. 185	\$1,800 00	
One clerk of class three (same act), R. S., p. 185	1 600 00	
One clerk of class two (same act), R. S., p. 185	1 400 00	
One clerk of class one (same act), R. S., p. 185	1 200 00	
One clerk (same act), R. S., p. 185	1,000 00	
One assistant messenger (same act), R. S., p. 185	720 00	
One laborer (same act), R. S., p. 185	600 00	
One janitor for Naval Dispensary (same act), R. S., p. 185	600 00	
One laborer for Naval Dispensary (same act), R. S., p. 185	480 00	
One clerk of class one, for service in pension division of Bureau, submitted	1 200 00	
	10 000 00	\$9,400 00

Detailed objects of expenditure, and explanations.	Total amount to be appropriated under each head of appropriation.	Amount appropriated for the six months ending December 31, 1884.
<i>Medical Department and Civil Establishment.</i>		
For surgeons' necessaries for vessels in commission, navy yards, naval stations, Marine Corps and Coast Survey, and for the Civil Establishment at the several naval hospitals, navy yards, Naval Laboratory and Naval Academy. [Vol. 22, p. 476, sec. 1. Appropriated P. E. Stat., p. 262, sec. 1.]	\$30,000 00	\$30,000 00
<i>Naval Hospital Fund</i>		
For the maintenance of the naval hospitals at Portsmouth, N. H., Chelsea, Mass., Brooklyn, N. Y., Philadelphia, Pa., Annapolis, Md., Washington, D. C., Norfolk, Va., Pensacola, Fla., Mare Island Cal., and Yokohama, Japan. [Vol. 22, p. 476, sec. 1. Appropriated P. E. Stat., p. 262, sec. 1.]	30,000 00	15,000 00
<i>Contingent Bureau of Medicine and Surgery</i>		
For contingent expenses of the Bureau, for freight or expressage on medical stores, tolls, bridges, and car tickets, transportation of insane patients, advertising, telegraphing, rent of telephones, purchase of books, postage and purchase of stamps for foreign service, expenses attending the medical board of examiners, rent of rooms for Naval Dispensary and Museum of Hygiene, hygienic and sanitary investigation, and instruction, sanitary and hygienic investigations, purchase and repair of wagons and harness, purchase and feed of horses and cows, trees, plants, garden tools, and seeds, furniture and incidents, offices for Medicine, Hygiene, Naval Dispensary, Washington Naval Laboratory, sick quarters at Naval Academy, and dispensary at navy yards, warehouse for medical department at Annapolis, of Hygiene, Naval Dispensary, Washington Naval Laboratory, sick quarters at Naval Academy, dispensary at navy yards, and for receiving ships and rendezvous. [Vol. 22, p. 476, sec. 1. Appropriated P. E. Stat., p. 262, sec. 1.]	25,000 00	12,500 00
<i>Repairs Bureau of Medicine and Surgery</i>		
For necessary repairs of Naval Laboratory, naval hospitals and appendages, including roads, wharves, out houses, sidewalks, fences, gardens, farms, and enclosures. [Vol. 22, p. 476, sec. 1. Appropriated P. E. Stat., p. 262, sec. 1.]	20 000 00	7,500 00

*The chief of the Bureau of Medicine and Surgery concurs with the chiefs of the other Bureaus of the Navy Department in recommending an increase of \$150 in the pay of chief clerk.

NOTE.—The additional clerk for service in pension division of Bureau was estimated for last year. The need of additional service is becoming more urgent.

years being 4.40 per thousand. There is a notable absence of any epidemic influences as increasing the ratio of death.

GENERAL AGGREGATE.

[Total force afloat, 9,874.]

Classification of diseases.	Remaining from last year.	Admitted.	Discharged to duty.	Invalided.		Died.	Remaining at the end of the year.	Total number of sick days.
				To hospital.	From service.			
Zymotic diseases	10	1,110	984	89	8	12	15	6,373
Constitutional diseases	22	984	803	184	8	1	20	10,618
Diseases of the nervous system	8	489	414	66	8	5	4	2,005
Diseases of the eye	3	117	97	10	2	—	3	1,100
Diseases of the ear	—	33	48	4	1	—	—	385
Diseases of the teeth	—	25	25	—	—	—	—	75
Diseases of the circulatory system	—	68	38	32	—	4	1	1,028
Diseases of the respiratory system	23	903	762	129	8	5	11	7,523
Diseases of the digestive system	11	1,421	1,315	23	3	2	20	6,922
Diseases of the genito-urinary system	19	621	519	84	8	—	29	7,809
Diseases of the locomotive system	2	45	34	9	—	—	4	400
Diseases of the integumentary system	19	688	861	27	—	1	18	7,862
Diseases of the absorbent system	6	170	123	24	1	—	8	2,000
Non malignant tumors and cysts	—	13	8	5	—	—	—	129
Poisons	4	144	140	7	—	—	1	554
Violent diseases and deaths	33	1,517	1,425	74	1	14	26	12,003
Forged diseases	—	3	3	—	—	—	—	10
Total	172	8,350	7,624	650	34	45	100	60,920

REPORT OF VACCINATION.

	Successful.	Unsuccessful.
No evidence of previous examination	266	529
Presenting zoster castri	1,051	1,500
Evidence of former attack of small pox	22	137

AGE TABLE.

	15 to 25.	25 to 35.	35 to 45.	45 to 55.	Over 55.
Average number on board	4,558	3,319	1,404	471	124
Number sick	4,222	2,744	1,163	440	145
Daily average number of sick					191+
The daily average each case was under treatment					2+
Admissions per thousand of mean strength					22+
Invaliding per thousand of mean strength					52+
Deaths per thousand of mean strength					4+
<i>Ratio per thousand of admissions for each class of disease.</i>					
Zymotic diseases					114
Constitutional diseases					173
Diseases of the nervous system					20
Diseases of the eye					12
Diseases of the ear					5
Diseases of the teeth					2
Diseases of the circulatory system					1
Diseases of the respiratory system					94
Diseases of the digestive system					147
Diseases of the genito-urinary system					61
Diseases of the locomotive system					4
Diseases of the integumentary system					92
Diseases of the absorbent system					15
Non malignant tumors and cysts					1
Poisons					15
Violent diseases and deaths					157
Forged diseases					83

Estimates of appropriations required for the service of the fiscal year ending June 30, 1886, by the Bureau of Medicine and Surgery.

Detailed objects of expenditure, and explanations.	Estimated amount which will be required for each detailed object of expenditure.	Amount appropriated for the current fiscal year ending June 30, 1885.
<i>Salaries.</i>		
*Chief clerk (act of July 7, 1864), R. S., p. 185	\$1,800 00	
One clerk of class three (same act), R. S., p. 185	1,000 00	
One clerk of class two (same act), R. S., p. 185	1,400 00	
One clerk of class one (same act), R. S., p. 185	1,200 00	
One clerk (same act), R. S., p. 185	1,000 00	
One assistant messenger (same act), R. S., p. 185	720 00	
One laborer (same act), R. S., p. 185	680 00	
One janitor for Naval Dispensary (same act), R. S., p. 185	600 00	
One laborer for Naval Dispensary (same act), R. S., p. 185	480 00	
One clerk of class one, for service in pension division of Bureau, submitted	1,200 00	
	10,680 00	\$2,480 00
Detailed objects of expenditure, and explanations.	Total amount to be appropriated under each head of appropriation.	Amount appropriated for the six months ending December 31, 1884.
<i>Medical Department and Civil Establishment.</i>		
For surgeon's necessaries for vessels in commission, navy yards, naval stations, Marine Corps and Coast Survey, and for the Civil Establishment at the several naval hospitals, navy yards, Naval Laboratory and Naval Academy. [Vol. 22, p. 476, sec. 1. Appropriated P. E. Stat., p. 262, sec. 1.]...	\$50,000 00	\$30,000 00
<i>Naval Hospital Fund.</i>		
For the maintenance of the naval hospitals at Portsmouth, N. H., Chelsea, Mass., Brooklyn N. Y., Philadelphia, Pa., Annapolis, Md., Washington, D. C., Norfolk Vm., Pensacola, Fla., Mare Island, Cal., and Yokohama, Japan. [Vol. 22, p. 476, sec. 1. Appropriated P. E. Stat., p. 262, sec. 1.]	30,000 00	15,000 00
<i>Contingent Bureau of Medicine and Surgery.</i>		
For contingent expenses of the Bureau, for freight or expressage on medical stores, toll, ferridges, and car tickets; transportation of insane patients; advertising; telegraphing; rent of telephones, purchase of books; postage and purchase of stamps for foreign service, expenses attending the medical board of examiners; rent of rooms for Naval Dispensary and Museum of Hygiene; hygienic and sanitary investigation and illustration, sanitary and hygienic instruction; purchase and repair of wagons and barrees; purchase and feed of horses and cows; trees, plants, garden tools and seeds, furniture and incidental articles for Museum of Hygiene, Naval Dispensary, Washington, Naval Laboratory, sick quarters at Naval Academy, and dispensaries at navy yards; washing for medical department at museum of Hygiene, Naval Dispensary, Washington, Naval Laboratory, sick quarters at Naval Academy, dispensaries at navy yards and for receiving ships and rendezvous. [Vol. 22, p. 476, sec. 1. Appropriated P. E. Stat., p. 262, sec. 1.]	25,000 00	12,500 00
<i>Repairs, Bureau of Medicine and Surgery.</i>		
For necessary repairs of Naval Laboratory, naval hospitals and appendages, including roads, wharves, out houses, sidewalks, fences, gardens, farms, and canteenries. [Vol. 22, p. 476, sec. 1. Appropriated P. E. Stat., p. 262, sec. 1.]	20,000 00	7,500 00

*The chief of the Bureau of Medicine and Surgery concurs with the chiefs of the other Bureaus of the Navy Department in recommending an increase of \$450 in the pay of chief clerk.

NOTE.—The additional clerk for service in pension division of Bureau was estimated for last year. The need of additional service is becoming more urgent.

INSANE OF THE NAVY.

There were in the Government Hospital for the Insane, in this District, September 30, 1883 :

Lieutenant-commanders (retired)	3	Landsmen.....	8
Passed assistant surgeon (retired)....	1	Coal-heaver	1
Passed assistant engineer (retired)...	1	Privates of marines	19
Assistant engineer (retired).....	1	Late private of marines	1
Late acting ensign	1	Bugler	1
Late boatswain's mate	1	Beneficiaries	2
Seamen	10	Second-class boy	1
Late seaman	1	Third-class boys.....	2
Seaman (extra fireman).....	1	Late third-class boy	1
Ordinary seamen	2		
Ordinary seamen (extra firemen).....	2	Total	60

Admitted during the year ending September 30, 1884.

Commander	1	Late landsman (act of August 7, 1882). ..	1
Seaman	1	Late second-class fireman (act of August 7, 1882).....	1
Late seaman (under act of August 7, 1882).....	1	Corporal of marines	1
Ordinary seamen	2	Beneficiary.....	1
Late ordinary seaman (act of August 7, 1882)	1		
Landsman.....	1	Total	11

Discharged during the year ending September 30, 1884.

Commander (on trial).....	1	Corporal of marines	1
Late boatswain's mate.....	1	Private of marines	1
Seamen	2	Third-class boy.....	1
Landsman	1		
Coal-heaver	1	Total	9

Those remaining at the end of the year, September 30, 1884, were:

Lieutenant-commanders (retired)	3	Landsmen.....	8
Passed assistant surgeon (retired)....	1	Late landsman	1
Passed assistant engineer (retired)...	1	Privates of marines.....	18
Assistant engineer (retired)	1	Late private of marines	1
Late acting ensign	1	Bugler (Marine Corps).....	1
Seamen	9	Beneficiaries	3
Late seamen	2	Second-class boy	1
Seaman (extra fireman).....	1	Third-class boy.....	1
Ordinary seamen	4	Late third-class boy	1
Late ordinary seaman	1		
Ordinary seamen (extra firemen).....	2	Total	62
Late second-class fireman.....	1		

NAVAL HOSPITAL FUND.

The condition of this fund is as follows :

Balance on hand October 1, 1883.....	\$131,870 26
Transferred to the credit of the fund by the Fourth Auditor, since October 1, 1883.....	48,095 33
Credit by appropriation for six months ending December 31, 1884.....	15,000 00
Total	194,965 59
Deduct amount expended from October 1, 1883, to October 1, 1884	105,271 69
Balance on hand October 1, 1884.....	89,693 90

NAVAL HOSPITALS.

The several naval hospitals at Chelsea, New York, Philadelphia, Norfolk, Washington, and at Mare Island, California, have been kept in as efficient condition as the limited appropriation for repairs of hospitals would permit. Serious embarrassments have arisen from the insufficient number of employés to tend the sick, and to take care of the buildings and grounds.

A change in the manner of appropriating money for civil establishments has, with your approval, been suggested to the appropriation committees of Congress and accepted by them, which it is hoped may be followed hereafter.

The selections for the locations of these hospitals were carefully and judiciously made before their erection and they answer thoroughly well the intended objects, being both the sick quarters of their stations and convenient places to receive the sick from vessels arriving from sea. It would be impossible to replace these valuable establishments without enormous outlays of money to procure desirable sites and erect the necessary buildings thereon.

An increase in the accommodations for the sick at Portsmouth, N. H., has been asked for several years past. The plan suggested by Medical Inspector Cleborne in 1879 seems to be the best that can be adopted. With your approval I have requested the chief of Bureau of Yards and Docks to transfer to the hospital inclosure the adjoining ground and the paint-shop, which will afford two desirable hospital wards and enable the drains of the hospital to reach the river below. The present condition of these drains is most objectionable, and if they cannot be discharged into the river as proposed, the quarters will have to be abandoned.

QUARANTINE STATION.

The residents near Portsmouth, N. H., having addressed you an earnest protest against the presence of infected vessels in their harbor, I proceeded by your instructions, in August last, to look for a desirable location among the islands on the coast of Maine.

The Light-House Board, on my application to Commander Picking, lately inspector of that district, for information about the coast, tendered us the use of Widow's Island, in Penobscot Bay. Commander Crowninshield met me at Rockland and took me in the steamer Iris to visit this island and the line of coast to Mount Desert.

I find the island and location well suited for the purposes of a quarantine station. It is about fifteen acres in extent, easily accessible from the sea, and has safe anchorage. The village of Vinal Haven, in "Fox Island Thoroughfare," is about three miles away, and boatmen there will undertake to furnish fresh supplies to the station. The city of Rockland is distant about twelve miles only, and a steam tug stationed there could be used to keep up communication, by agreement with the health officers of the town.

To build a wharf, dig a well to supply fresh water (which was not found during our exploration), and to erect a small pavilion hospital with necessary offices, the sum of \$5,000 will be required. Very simple constructions of boards and canvas will be sufficient to protect the crew of an infected vessel at a safe distance from the hospital building.

After the buildings are erected it will be necessary to employ a keeper to protect the property when not occupied by the sick. On the arrival of an infected vessel, with yellow fever, for example, the charge of the

island and anchorage will be turned over to the officers of the vessel and the keeper withdrawn. Additional medical assistance and supplies can be furnished from Portsmouth in a few hours.

MUSEUM OF HYGIENE.

The Museum of Hygiene is supplied with suitable furniture for present demands, and is provided with a water service, so as to enable various forms of sanitary apparatus to be tested, and a large number are exhibited in action.

The collection of articles, plans, &c., is arranged under the divisions of "hygiene of civil life," "hygiene of private life," and "military and naval hygiene," and these are subdivided.

During the year 240 articles for exhibition have been received, giving a total of 650 in the collection.

The number of bound volumes added to the library during the year is 1,839, the total number being 7,049. This is exclusive of many duplicates and 101 bound volumes of pamphlets. The periodicals (separate titles), most of which are contributed, amount to 131.

The experimental laboratory connected with the Museum has all requisite apparatus for work, both in organic and inorganic chemistry; also apparatus designed for special investigation, as Koch's, for germ culture; Hemple's gas apparatus; Winkler's gas apparatus, and that of J. Burdon-Sanderson for physiological experiments, together with the spectroscope, polariscope, photometer, and other special instruments. The enumerated articles, except that of Burdon-Sanderson, have been recently received.

Connected with the laboratory is the division of microscopy, which is essentially complete in outfit. Photomicrographic work, as well as ordinary photography, can be done with complete apparatus.

During the past year nearly three hundred examinations have been made in the laboratory, and many microscopic specimens of morbid tissues examined, permanently mounted, and reported during this time.

A descriptive catalogue (with illustrations) is nearly ready for the printer. The delay in having the catalogue of books printed (owing to the amount of work at the Government Printing Office) has afforded an opportunity for revision, which will be made as soon as the small working force available can accomplish it.

The purchase of certain articles now in the International Health Exhibition, London, has been ordered for the museum, including the apparatus designed by Mr. Francis Galton for anthropometrical examinations.

GREELY RELIEF EXPEDITION.

It is a pleasant privilege to congratulate you officially on the perfect success of the Greely Relief Expedition, and to be able to commend fully the part taken therein by the medical officers. Their outfit was as complete as could be desired for such exceptionally difficult service.

INVESTIGATION OF BUREAU.

On the appointment of Surgeon William K. Van Reyphen to be acting chief of Bureau, February 7 1884, you directed him to make an examination of the records of the Bureau, and to report to you any evidence of irregularity or mismanagement of its affairs, of which some rumors had reached you, and subsequently he was instructed to assist the district attorney in comparing the paid vouchers of this Bureau in the

office of the Fourth Auditor of the Treasury with the record of bills and payments in the Bureau. The result has been the discovery of a large number of fraudulent vouchers, amounting to many thousand dollars. The examination of the business of the office has continued until the present time and is still in progress, and it is not yet possible to state what is the sum of the loss to the Government.

Many of these vouchers are evidently and entirely fraudulent, being for articles never needed nor delivered. Others appear to have been raised in amount after passing through the office in regular form of approval for some articles actually ordered for purchase.

From the records of the office it appears that since February 1880, all purchases have been made directly by the Bureau, and the neglect of the usual precaution of requiring from an inspecting and receiving officer the certificate on the face of public bills, of the delivery of goods, &c., has afforded the principal opportunity for such plunder.

Since my appointment to the office on March 28th last, I have, with the efficient assistance of Dr. Van Reyepen and with the benefit of his experience during his charge of the Bureau, examined carefully into its management and have adopted under your instructions, and after conference with the Second Comptroller and Fourth Auditor of the Treasury, every method of precaution in making purchases and procuring certification of inspection and receipt from responsible officers. that seems to be necessary to secure the best expenditure of appropriations for their specific objects, and to protect the Government against fraud and loss. The investigation of the condition of the Bureau by the Board appointed by you for the purpose has not suggested any fault in its management under the present methods.

STATISTICAL REPORTS OF BUREAU.

For many years the Bureau has published careful statistics of the health of the Navy and the character and distribution of its diseases in all parts of the world. In Dr. Horwitz's service as chief of Bureau, from 1865 to 1869, very interesting and valuable abstracts of the diseases and surgical injuries of our large squadrons upon the coasts and in the rivers of the country during the late war were prepared and published with the annual report. In 1870 Surgeon T. J. Turner prepared for Dr. William M. Wood, the first surgeon-general of the Navy, an admirable form of statistical report with accompanying sanitary notes, which has been followed in subsequent reports of this office, with such additions and expansions as have suggested themselves to the succeeding chiefs of Bureau, who have generally shown full appreciation of the value and extent of the sanitary studies and recorded observations of the officers of their Department.

Dr. Wood also issued in 1870 instructions to medical officers, to send from every vessel in commission and from each naval station, at home and abroad, in addition to their quarterly returns and yearly abstracts of diseases and injuries, full sanitary reports of the posts and the places visited, with all matters of interest concerning the origin of diseases and the most judicious modes of providing protection against them, as well as of their treatment; and for fourteen years past, "from every sea and shore," have come the interesting and valuable returns which have furnished the yearly volume of sanitary reports issued by the Bureau. The effect of such a system, in arousing interest in the pursuit of professional subjects and in developing the faculties of observation and research, cannot be too highly estimated. The study of sanitary

science and its practical applications to the care of naval ships and stations has occupied the best minds of the medical officers of the Navy for many years, and the results have been fully shown in the good condition of the crews of our vessels of all classes in our late war and in the wide distribution of our cruisers about the world.

In very recent years the additions to the contents of the yearly reports have rendered the volume more bulky and expensive than the value of the very minute statistical comparisons and computations would seem to authorize, and, at my request, Doctor Turner has reduced the statistical report to the facts of real value and interest to the medical department, in accordance with his original plan.

POST-GRADUATE COURSE.

For many years the Bureau has been impressed with the necessity for post-graduate instruction for our young medical officers, not only to prepare them for the intelligent treatment of the sick and wounded of the Navy, under ordinary circumstances, but to instruct them in the special diseases of shipboard and of the various climates of the world, and in the still more important matters which relate to the protection of the vessels and stations from the approaches of disease from without, and from the causes which develop it within their limits; and repeated efforts have been made to establish some form of school or instruction in the medical department. These have not been as successful as was desired. At present the opportunity is afforded, by the establishment of polyclinic courses at the great medical centers of New York, Boston, and Philadelphia, to procure most thorough instruction in every department of medicine and surgery, and in the allied scientific branches. The Navy Department has exhibited much generosity in procuring for its officers all possible privileges of post-graduate education at Annapolis, at the torpedo station, and more recently in the installation of the college at Coaster's Island. It cannot be less important that our younger medical officers should enjoy similar advantages at the polyclinic schools. I have to recommend, therefore, that tickets for the principal subjects of the courses—three months each—shall be purchased, so as to enable a certain number of officers to attend the instruction during the winter and spring months. At my request, the three medical officers attached to the Greeley relief vessels are now, at their own expense, attending selected courses on subjects of principal interest to them, but I regret that I am not enabled to provide them with tickets for the full course.

Very respectfully, your obedient servant,

F. M. GUNNELL,

Surgeon-General United States Navy.

Hon. WILLIAM CHANDLER,

Secretary of the Navy.

REPORT

OF

THE SECRETARY OF THE INTERIOR.

DEPARTMENT OF THE INTERIOR,
Washington, November 1, 1884.

SIR: In submitting my third and last annual report of the operations of the Department, I beg leave to renew recommendations of former reports, so far as there may be necessity therefor, and to make such suggestions as experience and observation have shown that the public interest demands.

INDIAN AFFAIRS.

In my last annual report I gave it as my opinion "that it is quite possible, with wise and judicious treatment of the Indian question, to prevent the recurrence of hostilities between the Indian and his white neighbor that has marked nearly every year of our history." It affords me great satisfaction in my third and last report to be able to say that the past year has been one of peace among the Indians, and that no outbreaks have occurred. All the tribes are at peace with each other and with their white neighbors. In my former reports I have at some length discussed the "Indian question." I do not think it necessary to repeat what I have said in former reports concerning the duty of the Government in dealing with the Indians, or with reference to the necessities of the Indian service. I adhere to the opinions heretofore expressed, which were formed after much study, thought, deliberation, and experience in the immediate vicinity of Indian tribes.

During the past year new buildings have been erected at several of the agencies for the accommodation of the children in the boarding-schools. Five new boarding-schools and 12 new day-schools have been added to the list of schools in successful operation. There are now 81 boarding-schools, 76 day-schools, and 6 industrial or manual labor schools under Government control. Fourteen boarding and 4 day schools are supplied with teachers and other employés, by some one of the various religious denominations, the Government paying a stipulated price for the care and education of the children therein. This course has been necessitated by lack of sufficient appropriations to provide for all the

children willing to receive an education. The amount paid is somewhat less than the average cost per capita of children maintained in Government schools. There are also 23 schools maintained by churches and associations without expense to the Government, and to the support of which the Government contributes nothing. Three new industrial schools have been completed and put in successful operation during the last year: 1 at Chilocco, Ind. T., with a capacity for 150 children; 1 at Lawrence, Kans., with a capacity for 300 children; and 1 at Genoa, Nebr., with a capacity for 150.

The Chilocco school was opened January last, and although its capacity was rated at 150 children, the average attendance has been 168. The capacity of the school should be increased, for there is no lack of children who are ready and willing to attend it. The location of the school was by act of Congress. The act provided for the selection of 640 acres only. This amount was thought to be altogether too small, and 1,200 acres was at first selected. Afterwards thirteen sections more were selected by Executive order, in order that farming and stock-raising might be carried on by the scholars. During the last summer the boys broke 275 acres of sod, put in 50 acres of millet, cultivated 15 acres of vegetables, made several miles of fence, cut and put up over 400 tons of hay, besides caring for stock and doing work about the building. A herd of 425 cows has been purchased for the school. It is expected that this herd will be cared for by the boys in attendance, and will prove not only an advantage to them in teaching them to care for stock, but prove a source of financial profit to the school.

An additional appropriation should be made for shops, &c., for the school.

The Genoa school, situated on the old Pawnee Reservation in Nebraska, was opened in February last with an attendance of 140 Sioux. The boys have cultivated 6 acres of potatoes, several acres in garden truck, 140 acres of corn, and 60 acres of oats, and assisted in making brick and other work about the place. Additional buildings are necessary for shops and for other purposes. Suitable appropriations should be made therefor.

The completion of the buildings at Lawrence, Kans., was delayed by the cold weather as well as delay in the payment of the contractor, the First Comptroller holding that the money intended for that purpose was not available. Congress authorized the use of the appropriation as first intended, and the work was then resumed. The buildings, however, were not completed until in July, too late to commence school for the season. Seven boys, transferred from Chilocco to Lawrence, and under the direction of the superintendent of farming, and one white laborer, cultivated about 120 acres of corn, oats, millet, several acres of potatoes, &c., and have helped to erect a barn and other buildings. The school was opened for the fall term with an attendance of 100, which will be increased to 300.

A new school building has been erected at Albuquerque, N. Mex., intended to accommodate about 150 children. The superintendent has found it necessary to erect some other buildings, which he is now doing, with funds furnished by charitable people in the East, through the agency of the Presbyterian Church.

Fort Berthold and Fort Hall have been turned over to the Department for Indian schools. It is hoped that by the close of the fiscal year schools will be in operation in both of these forts.

Under the provisions for the placing of Indian children in industrial schools in States at an expense not to exceed \$167 per capita, 565 children have been placed in schools in the following States: Kansas, Nebraska, Iowa, Illinois, Indiana, Pennsylvania, North Carolina, Tennessee, Wisconsin, and Minnesota. Quite a number of Indian children who have had some training in manual labor schools have been placed in private families, mainly from Carlisle and Hampton. It is believed that hereafter quite a number may be placed in private families from Genoa and Lawrence. The Osages have taken an advanced position in educational matters, having enacted a law through their council requiring eight months' attendance at school of each child of school age, or the forfeiture of a year's annuity, amounting to about \$100 per capita. Besides the children in the agency schools they have about 100 children at other schools away from the agency. These Indians are quite willing to pay for the schooling of their children out of their tribal funds. The school work among the Indians, exclusive of the five civilized tribes, is best shown by the following, taken from the report of the Commissioner of Indian Affairs:

Items.	1883.	1884.	Increase.
Training-schools, Carlisle, Forest Grove, &c.	3	6	3
Pupils in training-schools	610	1,195	585
Boarding-schools on or near reservations	79	83	4
Pupils in such schools	4,407	5,034	627
Children placed in various schools through the country	122	579	457
Day schools	117	128	11
Total number of day pupils	5,102	5,186	84
Total number of boarding pupils	5,139	6,808	1,669

Of the above, 142 boarding pupils and 1,056 day pupils are in New York; the day pupils attend the 30 public schools which the State of New York provides for her Indian population.

This calculation does not include the missionary schools.

The Department has been embarrassed on account of the small appropriations made for school buildings. On this subject the Commissioner of Indian Affairs says:

Buildings.—The embarrassment under which the office has labored for several years—insufficient school buildings—is becoming chronic. If reports gave the number of boarding pupils for which existing buildings furnish *suitable* accommodation, instead of the number which such buildings are compelled to accommodate, a much smaller showing would be made. Inspectors condemn the crowded, stifling dormito-

ries which they find, and agents on the other hand deplore the turning away from school of those who ask for admittance, and they decide to crowd the children temporarily, in the hope that the new building or addition for which they have entreated will soon be allowed. Too often the year goes by without relief and the whole management, even the *morale* of the school, suffers sometimes seriously. Buildings erected to meet the needs of ten years ago must still be made to suffice, and others too dilapidated and worthless to be repaired must still shelter children who therein are expected to become accustomed to the decencies and comforts of civilization, and to acquire habits of thrift and enterprise.

Since only \$25,000 was appropriated this last year for erection and repair of school buildings, no extensive work has, of course, been done. The Shoshone, Menomonee, Sisseton, and Siletz buildings, which were commenced in the previous year, have been completed and occupied; also the three new training-school buildings at Lawrence, Chilocco, and Genoa; and a building begun some years since at White Earth, Minn. The flourishing Albuquerque school has moved into new quarters after three years of waiting in rented buildings, supplemented by temporary make-shift additions, put up one after the other as the pupils crowded in. This building was intended for 158 pupils, and the superintendent of the school is asking for the immediate erection of another building to house the 50 additional pupils who will ask for admittance this fall, and the 100 others who can easily be obtained. The \$40,000 appropriated this year for buildings will be needed for the Crow, Devil's Lake, Wichita, Quinaielt, and Fort Peck buildings, and repairs and additions at other points, and Albuquerque must wait another year, as must also nine other places where there are either no buildings at all or else buildings which need immediate enlargement.

There is no obstacle to progress in Indian education with which this office has had to contend so great as the want of money to furnish suitable and even decent school buildings. As stated above, if all the Indian day and boarding school buildings, belonging to Government or other parties, had been filled, only one-fourth of the Indian school population would have been provided for. The suffering at Fort Peck and Blackfeet Agencies might have been made a golden educational opportunity for those tribes. Hungry children would need little urging to become inmates of boarding schools with well-spread tables. There has been money on hand to buy food for pupils, but none to put up shelters for them, and ignorance and wretchedness must continue unmodified and unrelieved.

To add to its other embarrassments, Congress has still further restricted the office by providing that during this year no Indian boarding-school building shall cost, including furnishing, over \$10,000. The Chilocco buildings, for 150 pupils, cost, exclusive of furnishing, and in a location where materials are easily accessible, over \$20,000, or over \$125 per pupil. A smaller building would somewhat increase the rate per pupil. Three evils are therefore left open to choice: (1) To limit the number of pupils to less than 75; (2) to put up a shabby structure, uncomfortable and inconvenient, and which will require extensive repairing and remodeling in the near future, and yet will never be what it should be; or (3) to erect one small building one year and attach another to it during the succeeding season at some extra cost for changes thereby necessitated. Either method pursued in private business would be considered inexcusably shiftless.

It has been the great object of the Department in dealing with the Indian to make him self-supporting. When an Indian youth has been taught to labor he is self-supporting, if an opportunity is presented to him to secure employment. One great difficulty met with is, that when the young of both sexes return to the agency there is no remunerative employment for them. They lack capital to open and cultivate a farm, and if they have acquired a trade, they find no employment of that

character. It is as necessary that some employment should be secured for them as it is to teach them to labor. An Indian educated at Government expense should not be allowed rations, but should receive encouragement to labor by donations of stock, implements of agriculture, &c., and then be compelled to take care of himself. He has the knowledge that enables him to make his living. Give him an opportunity, and if he fails, let him give way to those of his race who will work and live. If, however, the Indian boy or girl prefer to go out among the whites as a laborer, the Government should encourage and aid them so to do. A little money expended in that way will save a large amount that otherwise must be expended in their support. It ought to be the primary object of our dealings with the Indian to make him dependent on himself, and not on the Government; throw him on his own resources, with such aid only as is occasionally needed and as honesty and good faith on our part demands. All educated Indians should be citizens of the United States, and I suggest that those who shall complete the regular course at the several manual-labor schools be given citizenship, without their incurring the risk of a forfeiture of their interest in either tribal lands or tribal funds.

MANUAL-LABOR SCHOOLS FOR INDIANS.

The greatest agency for the civilization of the Indian is the manual-labor school. Indeed, I do not think I shall be far out of the way if I say the only agency for that purpose is the manual-labor school. In former reports I have gone into the question at considerable length. While the argument is by no means exhausted, it does not seem profitable to continue to discuss a question now admitted by all fair-minded men to have passed beyond the domain of speculation or doubt. The history of the few manual-labor schools established for the education of Indian children has demonstrated their great value, and that it is only necessary to multiply their number, so as to include all the Indian children of school age, to forever set at rest the question as to "what shall be done with the Indians." An honest compliance on the part of the Government with the conditions of the treaties with the various tribes concerning schools will substantially provide all the schools required for the education of all the children of school age whose attendance we can hope to secure. The amount due under the various treaties to the several tribes therein named I gave last year as amounting to the total sum of \$3,759,400. The amount now due after deducting all appropriations for school purposes is \$4,033,700. This money is now due. A large part of the money so agreed to be paid was in consideration of land ceded to the Government by the Indians. It is not a gratuity, but a debt due the Indians, incurred by the Government on its own motion, and not at the request of the Indians. It is true that the debt is due to dependent and weak people who have but little disposition to complain of the neglect of the Government to fulfill its obligation,

and are wanting in ability to compel the performance thereof; yet their very weakness and lack of disposition to complain ought to stimulate the Government to sacredly perform all the provisions of treaties providing for the education and advancement of these people. Not only a direct regard for our plighted faith demands this, but our interest also demands it.

In my last annual report I called attention to the various treaties providing for the education of Indian children. I submitted a statement of the sums required to fulfill such treaties. It appears that there was due at the close of the fiscal year 1884 the sum of \$3,759,400. I again submit the statement showing the amount due at the close of the fiscal year 1885:

Statement showing amounts which should have been appropriated up to June 30, 1885, to fulfill educational provisions of the treaties with various Indian tribes.

Name of tribe.	Date of treaty.	Revised Statutes, volume and page.	Provision of treaty.	Amount.
Apache, Kiowa, and Comanche.	Oct. 21, 1867	Vol. 15, p. 583	School building and teacher for every 80 children for twenty years.	\$295,400
Bannock	July 3, 1868	Vol. 15, p. 675	.....do	45,600
Cheyenne and Arapaho.	Oct. 28, 1867	Vol. 15, p. 595	.....do	306,800
Crow	May 7, 1868	Vol. 15, p. 651	.....do	277,000
Navajo	June 1, 1868	Vol. 15, p. 609	School building and teacher for every 30 children for ten years.	883,100
Northern Cheyenne and Arapaho.	May 10, 1868	Vol. 15, p. 656	School building and teacher for every 30 children for twenty years.	173,400
Shoshone	July 3, 1868	Vol. 15, p. 675	.....do	148,700
Sioux	Apr. 20, 1868	Vol. 15, p. 637	.....do	1,595,200
Ute	Mar. 2, 1868	Vol. 15, p. 621	.....do	307,900
Total .....	.....	.....	.....	4,033,700

DISARMING THE INDIANS.

In my former reports I have recommended the disarming of the Indians. I desire to again call attention to the subject, and repeat what I said in my last report concerning this matter:

If we subside the Indian, he has no use for fire-arms, and it is not economy to allow him to retain his arms for the purpose of supplying himself with game; far better to give him a sufficiency of food, and require him to remain on his reservation. If the Indian is disarmed he will cease to be an object of terror to his white neighbor, and the friendly relations that ought to exist between the white settler and his Indian neighbor will not be wanting. It is unsafe to trust an Indians with a gun; the very possession of it incites in him a desire to use it. The unarmed Indian is as safe in any country as the unarmed white man. It is the possession of his weapon and the knowledge that he may be tempted to use it that created hostility towards him on the part of the settler. Disarm him and put him under the protection of the law, and his person and property will be as safe as that of his white neighbor. His arms ought not to be confiscated; for every rifle give him an ox of twice its value to till his field—cows, sheep, or horses as he may need. The propriety of doing this cannot be doubted; the beneficial results will be readily seen.

Once disarmed, he will not only "cease to be an object of terror to his white neighbors," but will have less desire to exhibit himself before them, and be more inclined to settle down and become self-supporting. His gun and horse are the great hindrances to his civilization. The horse enables him to wander around the country, and the gun to secure a precarious living, which he ekes out by beggary and theft.

CRIMES ON THE RESERVATIONS.

I again desire to call attention to the necessity for legislation for the punishment of crimes on the Indian reservations. Since my last report the Supreme Court of the United States decided in the case of "*Ex parte Crow Dog*," indicted for murder, that the district court of Dakota was without jurisdiction, when the crime was committed on the reservation by one Indian against another. If offenses of this character cannot be tried in the courts of the United States, there is no tribunal in which the crime of murder can be punished. Minor offenses may be punished through the agency of the "court of Indian offenses," but it will hardly do to leave the punishment of the crime of murder to a tribunal that exists only by the consent of the Indians of the reservation. If the murderer is left to be punished according to the old Indian custom, it becomes the duty of the next of kin to avenge the death of his relative by either killing the murderer or some one of his kinsmen. The laws of the State or Territory wherein the reservation is situated ought to be extended over the reservation, and the Indians should be compelled to obey such laws and be allowed to claim the protection thereof.

COURT OF INDIAN OFFENSES.

The Commissioner of Indian Affairs, under my direction, in 1883, established a tribunal for the punishment of crimes among the Indians on their reservations, and entitled it a "court of Indian offenses." Experience has demonstrated the great value of this tribunal in maintaining order on the reservations. Where the courts have been organized, the beneficial effects thereof have been apparent, not only in maintaining order, but in teaching the Indian to respect the rights and property of his fellows. The agent at the Umatilla Agency, Oregon, says:

This court has worked admirably, and made radical changes, especially among the young men of the tribe, for the better, as all disorders or offenses that come before the judges here are inexorably punished.

Such is the testimony of other agents where the courts have been established.

These Indian judges have so far rendered gratuitous services to the tribes and the Government, but in some cases their labor is arduous, and as the most enlightened and advanced of the tribes are selected for the work, it is no inconsiderable tax on their time and good nature, for which they should receive a fair reward. I therefore concur with the Commissioner in recommending that suitable appropriation be made for the payment of the judges of the courts of Indian offenses, and that

authority by law be given to them to maintain order and punish minor offenses committed on the reservations by Indians and for the settlement of controversies between Indian and Indian.

LEASING OF INDIAN LANDS.

In my last report I called attention to the occupation of certain Indian reservations by stockmen with their herds, under an arrangement made with the Indians. I declined to treat these arrangements as leases made on the part of the Indians, but did treat them as licenses on the part of the Indians recognized by section 2117 of the Revised Statutes. I do not understand that the parties so occupying these lands with the consent of the Indians are there in violation of law, but their condition is not a satisfactory one either to themselves or the Department. The Department in allowing them to remain reserved the right to put them off of such reservation, notwithstanding such permit or license, if the Department considered it necessary to do so in the interest of the Indians. How far the Government may disregard the license so given by the Indians is a question that need not be discussed until it is presented, but should the Department attempt such exclusion against the wishes of the Indians, it would certainly lead to trouble. The amount paid for such privileges is understood to be about 2 cents per acre for the lands so occupied. This amount is not a fair compensation at this time for the use of such lands, or for at least a considerable portion thereof. Much of the land so occupied could be leased at from 4 to 6 cents per acre. The Cheyenne and Arapaho Indians attempted to lease 3,867,880 acres of their reservation, leaving unoccupied by stockmen about 430,000 acres. From the land so occupied by stockmen the Arapahoes and Cheyennes received last year 2 cents per acre, amounting to \$77,357.60, or an average of \$12.33 per capita. As it is believed that this reservation might be leased at from 4 to 6 cents per acre, the amount may be increased to \$24.66 or \$36.99 per capita. It is believed that the cattlemen will very readily consent to double or treble the price now paid if they can have some assurance that they will not be disturbed at the whim or caprice of the Indians. The amount now received, \$12.33 per capita, is a sum quite sufficient, if the Department could control its payment to the Indians, to aid very materially in their support and civilization. A family of five persons would receive \$61.65 per annum at 2 cents per acre. At 6 cents per acre the amount realized would go far toward their support without further aid from the Government.

Other tribes also have good grazing lands that might be leased at profitable rates, leaving the Indians a sufficient quantity of land for their own use, either for agriculture or grazing. Some legislation should be had on the subject to enable the Government to demand and receive for the Indians the full value for the occupation of their lands, and to prevent conflicts between rival claimants holding such licenses or privileges. Such occupants are not on the reservation in violation of law

if they have the consent of the Indians; yet should their conduct be such as to convince the Department that their presence is injurious to the Indians, it is quite difficult to say what would be the result of an attempt on the part of the Department to remove them if the Indians continue to consent to their remaining. While there can be no objection to allowing the Indians of the Indian Territory to lease their lands for grazing purposes, there is a serious objection to allowing the Indians on reservations outside of the Indian Territory to lease lands valuable for agricultural purposes for the purpose of grazing only. If the reservation is larger than is required for the use of the Indians occupying it, there should be a reduction thereof, and all that is not needed for the use of the Indians should be opened to settlement. The time has passed when large and valuable tracts of land fit for agriculture can be held by Indians for either hunting or grazing lands to the exclusion of actual settlers.

There have been frequent complaints made by stockmen and settlers in the northern portion of Montana and Wyoming of depredations by Indians on their stock, necessitated by the want of supplies on the part of the Indians. I called attention to these complaints in my last report. I regret to say but little has been done to remove this cause of complaint. The game has been destroyed to such an extent that it is impossible for any considerable number of Indians to live by the chase, and it cannot be expected that Indians will starve in the neighborhood of extensive herds of cattle. White men would not under such circumstances, and we cannot demand of the Indians what we would not demand of the whites under like conditions. It may be said that the Indians should work and not steal for a living; but it must be remembered that these people have been educated to believe that theft is a virtue and not a crime, if the property stolen is the property of an unfriendly Indian or white man. Until we have given these Indians an opportunity to earn their living by some kind of manual labor we ought not to complain of their depredations. It is not, however, to be expected that the settlers and stockmen will submit to the loss of their stock because the Government has failed in its duty towards the Indians, and the inevitable result of such depredations is to bring on a conflict between the Indians and white settlers, and in the present condition of affairs the Indian is sure to get the worst of such conflict.

With valuable agricultural and pastoral lands in quantities far beyond his wants or ability to make useful, he is a beggar and dependent upon the Government; and when the Government fails to make suitable appropriation for his support, he is brought to the verge of starvation. Left to himself, he will continue in this wretched condition until the vices of savage life shall destroy his race. His destruction will not be speedy, but it will certainly come unless he can be induced to adopt the civilization of the age, which he has until recently scorned. At no time in the history of our intercourse with the Indians have they

shown a greater desire to abandon their savage life than during the last year. They have welcomed (with but few exceptions) all the agencies provided for their benefit, and have shown a commendable disposition to adapt themselves to the new order of things. They express not only a desire for improvement, but the determination to improve. They give up their children to go to distant parts of the country, to sections unknown to them, in order that they may secure the advantages of an education and become acquainted with the ways of civilized people. A great number in the various tribes have made an effort to contribute something to the support of themselves and families. They are asking for stock cattle, and declare their willingness to take care of them if furnished, and very generally profess a willingness to do whatever is required of them in order that they may become self-supporting. But, like all uneducated people, they are unstable in their opinions and resolves, and need much encouragement to enable them to keep in the way that they profess an earnest wish to follow.

In my last report I recommended that all the appropriations not made under the provisions of treaty stipulations should be placed at the disposal of the Department to be distributed as the necessities and wants of the Indians demand. Another year's experience and observation has strengthened my views on this question, and I believe if the non-treaty appropriations were placed at the disposal of the Department to be distributed at the discretion of the Secretary of the Interior there would be less complaints about starving Indians, and that much good might be done by using such appropriation to assist those Indians who show the greatest disposition to become self-supporting.

CASH ANNUITIES TO INDIANS.

In my last report I called attention to the practice of paying to the Indians cash as interest on the funds held in trust by the Government. In some instances the Indians are capable of receiving and expending such sums of money in a judicious way, but in most cases the money so paid to them is wasted and often worse than wasted. Such payments should be made in stock cattle, agricultural implements, or by the erection of suitable dwelling-houses for those willing to occupy and live in such houses. Whenever the Indian is capable of caring for this money due him, it should be paid to him in cash; but he will never care for it properly until he has been taught to labor and has learned the value of money by earning it.

INDIAN HOMESTEADS.

The Indian appropriation act for the current year contains a provision allowing the Indians to avail themselves of the homestead law, and appropriates \$1,000 to aid the Indians in making selections of such homesteads. The provision is but temporary, and should be made perma-

ment. Much complaint has been made on behalf of the Indians, especially in California, that unscrupulous white men have pre-empted lands in the occupation of Indians, and in some cases where the lands were occupied for Indian village farms before the cession of California to the United States. In order to save to these Indians the lands in their actual possession, I ordered the Commissioner of the General Land Office to refuse to receive filings on lands in the actual possession of Indians.

SURVEYING INDIAN RESERVATIONS.

The Indian appropriation act for the current year contained an appropriation of \$50,000 for the surveying into subdivisions of Indian reservations. The amount is grossly inadequate to the wants of the Department. An appropriation of like amount should be made for the next fiscal year. On this subject the Commissioner says:

The want of a proper definition of reservation boundaries has been for years, and is still, one of the most fruitful causes of contention and disorder known to the Department, and it is to be hoped that the full amount of my estimate for surveys for the ensuing fiscal year may be provided, in order that existing disputes may be speedily settled, and a subdivision of lands within the reservations made, wherever required and deemed advisable, for the settlement of the Indians in individual homes.

THE GREAT SIOUX RESERVATION.

In my last report I called attention to the magnitude of this reservation, and urged that it should be reduced by a purchase of about 18,000 square miles, as proposed by the commission appointed in 1882. A bill reported from the Committee on Indian Affairs for this purpose passed the Senate and is now pending in the House of Representatives. I again urge the necessity of action in this matter both in the interest of the Indians and whites.

CROW RESERVATION.

I again call attention to this reservation. Since my last report the Indians have been located on the Big Horn. This reservation is much larger than required for their support. The reservation is situated in the Territory of Montana, and contains 7,364 square miles, or 4,713,000 acres of land. At least 3,000,000 acres might be disposed of, leaving the Indians sufficient agricultural lands to become self-supporting if they desire to become agriculturists, and a sufficient amount of grazing lands should they prefer to become stock raisers. The 1,713,000 acres that would be left would give nearly, if not quite, 600 acres of land to each individual member of their tribes. The number of Crows has been estimated at 3,500; but it is quite certain that the number is much less, and probably not over 2,500 or 3,000. A portion of the money realized for such sale should be at once invested in a herd for the tribes, and cared for by the Government until such time as the Indians shall be prepared to accept and care for their stock themselves. The proceeds

of the surplus lands, properly used, would make the Crows self-supporting in a few years at the furthest.

THE GENERAL LAND OFFICE.

The report of the Commissioner of the General Land Office shows that sales, entries, and selections of public lands under various acts of Congress embrace 26,834,041.03 acres, and of Indian lands 697,128.97, aggregating 27,531,170, an increase over the year 1883 of 8,101,137.20. The receipts for disposal of public lands are \$11,840,993.07; Indian lands, \$938,137.26, or a total of \$12,779,130.33, an increase over that of 1883 of \$1,073,364.68, to which is to be added \$10,276.76 received for certified copies of records, making a total of \$12,789,405.09. The Commissioner reports the total number of entries, &c., to be as follows:

The total number of entries and filings made during the year is 286,832, aggregating 40,625,000 acres; an increase of 60,724 over the year 1883 and 128,588 over 1882.

The total number of entries and filings posted during the year is 327,186. These entries and filings constitute claims of record awaiting completion and adjudication. The increase in number of claims posted in 1884 is 75,501 over the year 1883 and 131,049 over the year 1882.

PRE-EMPTIONS.

Twenty-one thousand two hundred and eighty-six pre-emption entries were made during the year, embracing an area of 3,206,095.86 acres; 11,012 ex-parte cases were approved for patent and 352 contested cases were decided, the patented and decided cases involving 1,725,000 acres.

The number of cases undecided June 30, 1884, was 17,911, an increase of the number in arrears of 4,854 contested and ex-parte cases. The number of pre-emption filings made during the year was 51,641, which, at 160 acres each, would cover 8,262,560 acres.

REPEAL OF THE PRE-EMPTION LAW.

The Commissioner again recommends the repeal of the pre-emption law. He says:

I renew previous recommendations for the repeal of the pre-emption law. In my last annual report I pointed out the absence of any great utility of the pre-emption system for a legitimate appropriation of the public lands by actual settlers, as the homestead system contains a sufficient pre-emption feature and a double system is not required. Economy of administration alone suggests such repeal, while the great abuses flowing from the illegal acquisition of land titles by fictitious pre-emption entries, and the exactions made upon bona fide settlers, who are often obliged to buy off such claims in order to get access to public lands, render the appeal, in my judgment, a matter of public necessity.

Pre-emption claims are filed when no intention of perfecting entries exists, but the alleged claim is held for speculation, or as a cover for denuding land of its timber. The average proportion of entries to filings is less than one-half.

In cases of entries actually made, it is found that the most valuable timber lands and large areas of agricultural and grazing lands are entered in fictitious names or by persons employed for the purpose, and the lands thus pass into speculative holdings, or holdings in large quantities for permanent control. Coal lands, the Government price of which is \$10 and \$20 per acre, are illegally obtained in the same manner at the minimum price of non-mineral lands. The Government loses the difference in price, while a loss to the general public lies in the increased price of the coal product

in consequence of the control of coal-fields, which in this way is acquired and held with a comparatively small outlay of capital. The result is equally true as to timber lands. Experience has demonstrated that an effective remedy for these evils can only be found in the repeal of the laws under which they arise.

The difficulty of protecting the public lands from fraudulent entries under the pre-emption law can be readily understood by the statement of the Commissioner concerning the work of the special agents, twenty-five in number, appointed for the protection of the public land from fraudulent entries and illegal appropriation. The Commissioner says:

Thirty-five hundred and thirty-one alleged fraudulent entries of public lands, embracing an area of 500,000 acres, have been investigated and reported, principally in California, Colorado, Dakota, Minnesota, and New Mexico, and a lesser number in all other public land States and Territories; 680 entries have been canceled on final proceedings, 782 held for cancellation, and hearings have been ordered in 781 cases. About 5,000 entries have been suspended, awaiting investigation.

In a special report submitted May 15, 1884, in reply to a resolution of the Senate, I stated as follows:

"Beyond cases specifically examined, I have no doubt that much has been done in the way of prevention within the sphere of these operations. But the territory to be covered is so vast and the proportion of fraudulent entries found to exist is so large, that if it be the intention of Congress that the remaining public lands shall be protected from indiscriminate absorption through illegal and fraudulent appropriation, more adequate legislative measures will need to be adopted.

"The repeal of the pre-emption and timber-culture laws, which I have heretofore recommended, is one of the first essential steps in this direction. It is not possible, by any administrative action, to close the doors opened to abuses under these laws.

"This may equally be said in reference to the timber-land and desert-land laws and the commutation features of the homestead laws, and also of the provision allowing the filing of soldiers' homestead declarations by attorney, which latter provision is used to defraud both the soldier and the Government.

"If all laws for the disposal of public lands, except the homestead law, were repealed, and the latter amended as heretofore suggested, the great bulk of misappropriations would disappear from future entries.

"An examination of pending entries alleged and believed to be fraudulent would require a special agent to be constantly on duty in each of the principal land districts, and in some districts one such agent would be unable to cope with the work before him.

"If the system of examination in the field is to be effective, provision should be made for not less than one hundred special agents. The compensation of such agents, including guides, surveyors, and assistants, averages about \$3,600 a year each, and additional expenses for the payment of witnesses and the cost of taking testimony on the part of the Government at hearings before local officers are also necessarily incurred. The total appropriation for the protection of the public lands the next fiscal year should not be less than \$400,000, if efficient measures are desired. An addition of twenty-five clerks, who should be of the higher grades, would also be necessary in this office in directing the operations of special agents and examining and acting upon their reports.

"Further legislation is also requisite to authorize registers and receivers to subpoena witnesses and compel their attendance."

No increased appropriation having been made by Congress for the current fiscal year, I was confronted at the outset with the necessity of either withdrawing special agents from investigations in the field or of abandoning or suspending further action upon investigations that had already been had, and as a result of which hearings

had been ordered in several hundred cases. It was found impossible to carry on both, as the expenses of each singly would exhaust the appropriation. Hearings could not be had without the presence of special agents, who are material witnesses, and the payment of their expenses would leave no means to defray other costs.

It was therefore determined, as the only available course, to continue in the field such number of special agents as the appropriation permits and to suspend all hearings ordered on their reports. The result is that final action cannot be taken for the cancellation of entries examined and reported fraudulent until Congress shall make provision for the expenses of formal hearings, or obviate the necessity of them by clearly investing the executive department with power to summarily cancel entries found fraudulent upon special examination.

For a similar reason of the inadequacy of the appropriation to the needs of the service I have been compelled to remove general suspensions of entries in localities in which fraudulent appropriations have been reported as prevalent, and to permit entries to go to patent without the investigation necessary to determine the *bona fide* or fraudulent character of any of them.

It is obvious that some decisive action by Congress is called for by every consideration of public policy and administrative expediency.

If it is the legislative purpose to adhere to the policy of preserving the remaining public lands for actual settlers, and to prevent the acquisition of great bodies of land in fraud of law by single individuals and corporations, American or foreign, sufficient means should be placed at the disposal of the Land Department to prevent the vast and widespread violations of law which have been brought to the knowledge of this Department and the notice of Congress.

I have discharged my own duty in presenting this subject, as I have from time to time in my annual reports and in special reports submitted to Congress, as clearly and forcibly as I could, and I leave to the higher power of that body the responsibility of determining the course to be pursued.

It appears from the foregoing that if the pre-emption and timber-culture laws are not repealed more liberal appropriations should be made for the detection and punishment of fraud on the Government through the agency of said laws. But even with liberal appropriations for the detection of frauds of the character before mentioned, it will be impossible to prevent unscrupulous persons in the thinly-settled regions of country from appropriating public land by a mere technical compliance with the laws, while the spirit thereof is violated. There is but one remedy, and that is in the repeal of the law no longer necessary to enable the actual settler to secure a title to the land he occupies on the public domain. The public lands ought to be reserved for actual settlers, and should be conveyed only when the settler has shown his good faith by a residence on the land for the period provided for by the homestead law. No commutation of homesteads should be allowed.

In connection with this subject I call especial attention to the Commissioner's report on the disposal of public lands. He says:

The surveyed public lands of the United States have largely been disposed of, or appropriated by various claims under general laws, or pledged for the satisfaction of educational, internal improvement, or other public grants. The total area surveyed from the commencement is 938,940,125 acres. The estimated area unsurveyed, exclusive of the Territory of Alaska, is 506,495,454 acres. This estimate is of a very general nature, and affords no index to the disposable volume of land remaining, nor to the amount available for agricultural purposes. It includes Indian and other public reservations, unsurveyed private land claims, the sixteenth and thirty-sixth sections

reserved for common schools, unsurveyed lands embraced in railroad, swamp land, and other grants, and the great mountain areas, and areas of unsurveyed rivers and lakes. Deducting these, and areas wholly unproductive and unavailable for ordinary purposes, and the volume of remaining land shrinks to comparatively small proportions. The time is near at hand when there will be no public land to invite settlements or afford citizens of the country an opportunity to secure cheap homes.

* * * * *

In the early history of the country, when the broad expanse of the public domain was unsettled, a liberal system of laws was adopted providing for an easy acquisition of individual titles, and even down to later periods the object apparently sought to be accomplished in the purpose of the laws and the policy of their administration was for the United States to hasten the disposal of its lands. With this purpose in view and abundant areas everywhere open to settlement, no special safeguard against appropriations in fraud of law appears to have been thought of or deemed necessary. On the contrary, the prevailing tendency of legislation has been to remove restrictions rather than to impose them, and acts have been passed primarily for the relief or benefit of actual settlers which have been availed of to the defeat of settlements by the facility afforded for the aggregation of land titles in speculative or monopolistic possession.

The numerous methods of disposal now existing, and the laxity of precautionary provision against misappropriations, are resulting in a waste of the public domain without the compensations attendant upon small ownerships for actual settlement and occupation.

It is my opinion that the time has fully arrived when wastefulness in the disposal of public lands shall cease, and that the portion still remaining should be economized for the use of actual settlers only. An act reserving the public lands, except mineral lands and timber reserves, for entry exclusively under the homestead laws, and amending the homestead laws so as to prevent the present easy evasion of wise restrictions and essential requirements, would be a measure meeting this end, and answering a pronounced public demand.

ILLEGAL FENCING OF THE PUBLIC LANDS.

In my last annual report I called attention to numerous complaints made concerning the illegal fencing of the public land, and urged some legislation by which such illegal fences might be summarily removed without the delay and expense of a suit in court. I regret to say that Congress has so far failed to take action on this subject. A number of suits have been instituted by the Department of Justice at the request of this Department, to compel the parties to remove such fences, but such proceedings involve much time and delay, and if the parties defendants desire to continue in possession of such fenced lands, appeals will be taken to the Supreme Court of the United States, and the Government put to great expense and the land withheld from occupation under the settlement laws. I trust that some legislation may be had that will enable the Department in a summary way to destroy these fences where the builders refuse to take them down. It has been claimed by some that the power exists in the Department to destroy these fences as obstructions on the public lands. If this is so the Department has no means at its disposal to pay the expenses of such removal, neither has the Department of Justice. Authority should be given to remove such obstructions, and provision made for the payment of the persons employed to do such work.

TAXATION OF RAILROAD LANDS.

I again call attention to the necessity for some legislation to compel the railroad companies having earned the land granted to them to take a patent therefor, so that the States or Territories in which such lands lie may have the benefits derived from taxing the lands within their boundaries. On this subject I repeat what I said in my last annual report:

By section 21 of the act of July 2, 1864 (13 Stat., 356), amendatory of the Pacific Railroad act of July 1, 1862 (12 Stat., 489), it is provided—

“That before any land granted by this act shall be conveyed to any company or party entitled thereto under this act there shall first be paid into the Treasury of the United States the cost of surveying, selecting, and conveying the same, by the said company or party in interest, as the titles shall be required by said company, which amount shall, without any further appropriation, stand to the credit of the proper account, to be used by the Commissioner of the General Land Office for the prosecution of the survey of the public lands along the line of said road, and so from year to year until the whole shall be completed, as provided under the provisions of this act.”

By act of July 31, 1876 (21 Stat., 121), substantially the same provision was extended to all railroad companies receiving grants of land, “unless * * * exempted by law from the payment of such cost.”

By the failure of the companies to pay such costs and apply for patents a large amount of lands granted to and held by railroad companies under the rulings and decisions of the Supreme Court, as enunciated in *Kansas Pacific Railway Company v. Prescott* (16 Wall., 603), and *Railway Company v. McShane* (22 Wall., 444), are substantially relieved from State taxation, and contribute nothing to the fair support of the burden and revenue of the local governments, and at the same time deny to the General Government the due compensation provided by law for the surveys already extended over a portion of the lands, and the benefit of the enlarged appropriations intended to secure further surveys along the line of the roads.

Experience has shown that, instead of aiding the Government and facilitating the survey and sale of the public lands along the routes, and the consequent settlement of the country, the provision has operated to retard such landable results, and also has served to enable the companies to obtain such valuable parcels of land as they may find speedy profit in selling, thus imposing the full burden of taxation upon their grantees and other settlers who purchase lands in the same neighborhood, while refusing to take the patents for the larger body of less valuable lands upon which such burden would fall in the hands of the companies themselves.

It is earnestly to be desired that some means of adjustment of these grants, as a whole, be provided, or some method devised which shall, under cover of legislative authority, not only remedy the evil suggested, but enable this Department to reach a finality as to the titles to be conveyed to these corporations at the earliest practicable moment, and thus relieve an anxious and excited public feeling, already sufficiently aroused upon the various difficult and complicated questions connected with the administration of this momentous and important branch of public affairs.

To this end I most urgently recommend that the prompt and serious attention of Congress be invited to the foregoing suggestions, and that the several companies be compelled to take patents for the lands earned, and to pay for the surveys made in accordance with the provisions of the statutes heretofore cited.

I append a table of the number of acres of land, and the number for which patents have issued, showing the number of acres for which no patents have issued, also the amount due the Government on such surveys.

Statement of the estimated number of acres of land granted to railroad companies by the acts of July 1, 1862 (12 Stat., 489), and July 2, 1864 (13 Stat., 356); the number of acres on which the cost of surveying has been paid to November 11, 1884; the estimated cost of the survey of the remainder of the grants; and the number of acres patented to the companies named up to June 30, 1884.

Name of company.	Estimated number of acres granted.	Number of acres on which cost of surveying has been paid.	Amount paid for cost of surveying.	Estimated number of acres in the remainder of the grants.	Estimated cost of surveying remainder of grant.	Number of acres patented up to June 30, 1884.
Union Pacific Railway Company	13, 222, 400	2, 302, 817	\$51, 842 29	10, 919, 583	\$370, 905 79	2, 305, 024. 64
Union Pacific, successor to Kansas Pacific Railway Company . .	6, 000, 000	1, 530, 537	31, 041 07	4, 469, 463	127, 624 04	963, 714. 03
Union Pacific, successor to Denver Pacific Railway Company	1, 024, 000	221, 942	9, 304 57	802, 058	34, 502 00	164, 721. 51
Central Branch Union Pacific Railroad Company	1, 160, 000	265, 684	5, 196 97	894, 316	17, 492 58	187, 447. 99
Central Pacific Railroad Company	9, 248, 200	1, 006, 881	53, 737 23	8, 241, 319	411, 732 37	814, 344. 08
Central Pacific, successor to Western Pacific Railroad Company	1, 576, 448	448, 387	17, 397 17	1, 128, 061	48, 631 25	446, 230. 65
Burlington and Missouri River Railroad Company in Nebraska	* 2, 382, 208	2, 378, 556	50, 515 79	.....	.....	2, 373, 290. 77
Sioux City and Pacific Railroad Company . .	† 45, 000	41, 398	680 13	3, 602	77 80	41, 398. 23
	34, 658, 256	8, 196, 202	219, 715 32	26, 458, 402	1, 005, 968 43	7, 296, 171. 90

* Area of grant claimed by the company; question of correct area pending in this office.

† But little land in addition to the amount already patented available for the grant.

With the exception of the two companies last named, the basis of the above estimates is stated in Commissioner's report of February 5, 1884, on questions submitted to the Department by Hon. G. W. Cassidy, chairman Committee on Pacific Railroads, House of Representatives.

The above statement includes all grants earned by construction of the road within the time fixed by law, where payment of cost of surveying lands is required, except those for the Saint Joseph and Denver City Railroad Company—practically adjusted and costs paid—and the branch line of the Southern Pacific Railroad—costs paid so far as lands have been selected. The companies in laches as to construction, which are required to pay such costs, are: Northern Pacific, Atlantic and Pacific, Southern Pacific main line, Texas and Pacific, New Orleans Pacific, California and Oregon (now consolidated with Central Pacific), Oregon and California, and Oregon Central.

LAPSED GRANTS.

In my report for 1882, as well as in that of 1883, I called attention to the necessity for some legislation in reference to lapsed land grants. The Department is not at liberty to declare a grant forfeited because the road is not completed within the time fixed in the grant. The Supreme Court of the United States declared in the case of *Schulenberg v. Harriman* (21 Wallace, p. 44) that a failure to complete the road within the time fixed in the grant did not forfeit the grant. Under this decision the Department cannot treat the land so granted to the railroad companies, or to the States for the benefit of such corporations, as public lands; and to all intents and purposes, so far as the public is concerned, the grants are private property, notwithstanding that the companies in some instances have not even attempted to comply with

the conditions of the grant. I again repeat what I said on this subject in my last annual report:

It is difficult to make the people understand that the executive department of the Government cannot declare a grant forfeited when the corporation for whose benefit it was made has failed to comply with the conditions thereof. Petitions are presented to the Executive demanding the forfeiture of grants for non-compliance with the conditions thereof. Individual claimants declare themselves outraged because the Commissioner of the General Land Office refuses to allow filings on the odd sections of lands within the unforfeited railroad grants. The Government is derided as the Government of the rich and opposed to the poor, because the executive department of the Government does not do what the courts have repeatedly declared could be done only by the legislative branch of the Government; that is, declare a forfeiture of a grant.

Complaint is made that grants made more than a quarter of a century ago are still treated as valid subsisting grants and the settler forbidden to go thereon, although nothing has been done toward the building of the road, which must be built before the railroad company can receive the evidence of the title given to it by the Government so many years before.

If the grants are not forfeited when there has not been a full compliance with the conditions of the grant, it seems to be just and proper that some provision should be made by which the settlers, who through ignorance or because they believed such grants had been or would be forfeited have made settlement on such railroad lands, can secure a title either through the railroad company or from the Government.

If the executive department of the Government disregards the law and issues a patent to such settler, he takes nothing by the instrument, and is as much at the mercy of the corporation as if he had not received the Government patent. Congress alone can relieve the settler by declaring the grants forfeited.

I trust this matter will receive the early attention of Congress.

PENSIONS.

The report of the Commissioner of Pensions shows that at the close of the fiscal year 1884 there were 322,756 pensioners, classified as follows:

Army invalids.....	218,956
Army widows, minor children, and dependent relatives.....	75,836
Navy invalids.....	2,616
Navy widows, minor children, and dependent relatives.....	1,938
Survivors of the war of 1812.....	3,898
Widows of those who served in the war of 1812.....	19,512

There were added to this roll during the year the names of 34,192 new pensioners, and 1,221 previously dropped were restored to the rolls, making in the aggregate 35,413; and 16,315 were dropped for various causes, being a net increase on the roll of 19,098.

The average annual value of each pension at the close of the year is \$106.75, and the aggregate annual value of all pensions is \$34,456,600.35, an increase over like value for the previous year of \$2,211,407.92.

The amount paid for pensions during the year is \$56,908,597.60, exceeding, as will be observed, the annual value of pensions several millions of dollars, which represents the first payments, generally in new

claims, and known as arrears of pensions. The amount paid during the year to 31,307 new pensioners was \$23,413,815.10, and there remained in the hands of the several pension agents 7,203 cases of this class unpaid, in which there was due \$4,949,090.05.

The detail of these statements will be found in Table 1 of the Commissioner's report. Since 1861 there have been filed 927,922 claims for pensions; of this number, 545,130 have been allowed. About 82 per cent. of the whole number now pending are awaiting the action of the claimants or their witnesses on unanswered calls from the Pension Office. Since 1861 the total amount disbursed for pensions has been \$678,346,834.34. In order to show the increase of business in the Pension Office, the Commissioner furnishes the following table of letters sent and received:

Fiscal years.	Letters received.	Congressional letters received.	Letters sent.
1878	588, 692	9, 211	96, 100
1879	669, 117	16, 133	361, 500
1880	891, 512	35, 488	762, 236
1881	847, 123	36, 813	1, 106, 531
1882	1, 338, 909	66, 021	1, 171, 221
1883	1, 681, 171	70, 285	1, 454, 699
1884	1, 776, 906	75, 286	1, 368, 011

NOTE.—In the "letters sent" the calls made on the Adjutant-General and Surgeon-General, U. S. A., are not included.

Two hundred and forty special examiners were employed in the field. Congress at its last session authorized the employment of an additional force of one hundred and fifty. The system of special examination appears to have given great satisfaction to the claimants and the office.

The appeals from the Commissioner of Pensions to the Secretary were, during the fiscal year 1883, 746; during the past year, 1,516.

The act of January 25, 1879, provided—

That all pensions which have been granted under the general laws regulating pensions, or may hereafter be granted, in consequence of death from a cause which originated in the United States service during the continuance of the late war of the rebellion, or in consequence of wounds, injuries, or disease received or contracted in said service during said war of rebellion, shall commence from the date of the death or discharge from said service of the person on whose account the claim has been or shall hereafter be granted, or from the termination of the right of the party having prior title to such pension.

In an act entitled "An act making appropriations for the payment of the arrears of pensions granted by act of Congress," approved March 3, 1879, it was provided as follows:

All pensions which have been, or which may hereafter be, granted in consequence of death occurring from a cause which originated in the service since the 4th day of March, 1861, or in consequence of wounds or injuries received or disease contracted since that date, shall commence from the death or discharge of the person on whose account the claim has been or is hereafter granted, if the disability occurred prior to

discharge, and if such disability occurred after the discharge, then from the date of actual disability, or from the termination of the right of party having prior title to such pension: *Provided*, The application for such pension has been or is hereafter filed with the Commissioner of Pensions prior to the 1st day of July, 1880, otherwise the pension shall commence from the date of filing the application; but the limitation herein prescribed shall not apply to claims by or in behalf of insane persons and children under sixteen years of age.

Thus all persons applying for pension prior to July 1, 1880, are entitled to pension from the time of discharge or the death of the person on whose account the claim is made, unless the disability occurred after discharge. In all claims made subsequent to that date the pension must commence from the time of the filing of the application. No good reasons can be given why the claimants who file their claims after July 1, 1880, ought not to receive their pensions from the time of discharge if such disability then existed, or if not then existing, from the time such disability originated. It is but just that all persons who are able to establish the right to receive a pension should be treated alike with reference to time of the commencement thereof.

It has been urged in favor of this limitation that the large amount of arrears is an inducement to applicants to apply and secure a pension, and that the large amount to be realized is a temptation to commit fraud on the Government by means of false witnesses.

The Government has the means of detecting fraud if attempted, and injustice should not be done to the deserving and needy soldier for fear the Government may in some few instances be imposed upon and compelled to pay a pension to which the soldier is not justly entitled. It is impossible for a soldier to secure a pension for disabilities not existing; it is often, however, a question whether such disability is or is not the result of service in the line of duty. The rules of the Pension Office for the determination of this question are sufficiently strict, and with a proper administration of the affairs of that office very few pensions will be allowed parties not entitled to receive the same. It is to be hoped that the limitations imposed by the act of March 3, 1879, will be repealed.

THE PATENT OFFICE.

The following report of the business of the Patent Office for the fiscal year ending June 30, 1884, is submitted:

Applications for patents received.....	35, 204
Applications for design patents received.....	1, 322
Applications for reissue patents received.....	244
Applications for registration of trade-marks.....	1, 077
Applications for registration of labels.....	975
Total.....	38, 822
Caveats filed.....	2, 672
Patents granted, including reissues and designs.....	22, 882
Trade-marks registered.....	903
Labels registered	833
Total.....	24, 618
Patents withheld for non-payment of final fees.....	2, 652
Patents expired.....	10, 230

Receipts and expenditures.

Receipts from all sources.....	\$1, 145, 433 10
Expenditures (not including contingent expenses).....	901, 413 39
Surplus.....	244, 019 71

Comparative statement showing the increase in the work

Applications for patents, including reissues, designs, trade-marks, and labels, received during the fiscal years ending June 30—

1881.....	24, 906
1882.....	30, 062
1883.....	35, 734
1884.....	38, 822
Increase 1884 over 1881.....	13, 916
Increase 1884 over 1882.....	8, 760
Increase 1884 over 1883.....	3, 088

Applications awaiting action on the part of the office July 1—

1883.....	4, 699
1884.....	9, 786

Comparative statement showing the increase in receipts.

Fiscal year ending June 30, 1881.....	\$789, 895 52
Fiscal year ending June 30, 1882.....	930, 864 14
Fiscal year ending June 30, 1883.....	1, 095, 884 70
Fiscal year ending June 30, 1884.....	1, 145, 433 10
Increase 1884 over 1881.....	355, 537 58
Increase 1884 over 1882.....	214, 568 96
Increase 1884 over 1883.....	49, 548 40

It will be seen from the foregoing statement that the business of the Patent Office is continually increasing. The examining work is about six months in arrears. Every succeeding year greater labor and care are required in the consideration of applications, owing to the increase in the number of patents issued and the widening of the field of invention.

Special efforts were made to impress upon Congress during its last session the needs of the office, and, as a result, an increase of twenty-two was provided in the examining corps, but an experience of several months is requisite before new appointees can become sufficiently skilled to render material aid in the examination of applications.

In the estimates of appropriations for the fiscal year ending June 30, 1886, the Commissioner asks an increase of forty in the examining corps, as also an increase in compensation. The first is essential in order that the force may be adequate for the business coming before the office, and the second is necessary to secure and retain skilled and experienced men who are able to discern what is novel in the intricate inventions presented for consideration.

Additional room, a power hall, and a laboratory are indispensable to the proper conduct and dispatch of business; and, while the estimates submitted show considerable increase over the present appropriation, the receipts of the office are more than ample to cover them. In providing the necessary facilities for the administration of the affairs of this office no burden will be imposed upon the people, for the inventors alone pay into the Treasury more than sufficient to furnish everything requisite.

In addition to the legislation repeatedly recommended in relation to section 4887 of the Revised Statutes, it is very desirable that section 4936 be so amended as to authorize this office to refund from its current receipts any sum or sums of money to any person who has, through mistake, paid the same into the Treasury, or to any receiver or depository, to the credit of the Treasury, as for fees accruing at the Patent Office. It has frequently happened that fees thus paid have been covered into the Treasury before it was ascertained that they had been paid under a misapprehension. In cases of this kind special legislation is necessary to authorize the Treasury Department to refund. Much labor to this office and the Treasury would thus be saved, and persons would be able to recover money paid by mistake without petitioning Congress.

OFFICE OF COMMISSIONER OF RAILROADS.

The report of the Commissioner of Railroads gives the operations of his office during the fiscal year ending June 30, 1884.

The property and accounts of the railroads coming within the jurisdiction of the office have been examined, the several companies having freely accorded all proper facilities for the inspection of their properties *and the examination of their books.*

Statements are submitted in detail showing the indebtedness of the subsidized railroads to the United States, earnings and expenses, financial condition, 5 and 25 per centum of net earnings, and various other data pertaining to these roads.

The Commissioner also submits detailed statements of the sinking funds of the Union and Central Pacific Railroad Companies, showing the sums which have been covered into said funds by the Treasury of the United States, and the amount and character of investments made by the Secretary of the Treasury as custodian.

CONDITION OF THE BOND AND INTEREST ACCOUNT.

The public debt statement issued by the Treasury Department June 30, 1884, shows the condition of the accounts with the several Pacific railroad companies as to moneys actually covered in to their credit, but takes no account of moneys in the sinking fund held by the Treasurer of the United States, or of the compensation for services not at that time settled by the accounting officers.

This is shown by the following statement:

Name of railway.	Principal outstanding,	Interest accrued and not yet paid by the United States.	Interest paid by the United States.	Interest repaid by companies to credit of bond and interest account.		Balance of interest paid by the United States.
				By transportation services.	By cash payments, 5 per cent. of net earnings.	
Central Pacific..	\$25,885,120 00	\$776,553 60	\$24,229,108 87	\$4,784,617 43	\$648,271 96	\$18,796,219 48
Western Pacific	1,970,560 00	59,116 80	1,727,365 74	9,867 00	.....	1,717,998 74
Union Pacific...	27,236,512 00	817,095 36	25,774,945 77	10,006,107 79	.....	15,768,837 98
Kansas Pacific..	6,303,000 00	189,090 00	6,318,423 00	3,055,291 60	.....	3,263,131 49
Central Branch Union Pacific.	1,600,000 00	48,000 00	1,597,808 26	162,401 27	6,926 91	1,428,480 08
Sioux City and Pacific.....	1,628,320 00	48,849 60	1,513,147 09	131,138 32	.....	1,382,008 77
Total	64,623,512 00	1,938,705 36	61,160,798 82	18,148,923 41	655,198 87	42,350,676 54

The "interest accrued and not yet paid by the United States," amounting to \$1,938,705.36, was payable July 1, 1884.

The total indebtedness of the several subsidized Pacific railroads to the United States on June 30, 1884, is reported by the Commissioner to be as follows:

TOTAL DEBT,

Including principal and accrued interest.

Union Pacific (including Kansas Pacific).....	\$66,639,066 22
Central Pacific (including Western Pacific).....	54,647,825 01
Sioux City and Pacific.....	3,290,316 69
Central Branch Union Pacific	3,245,808 26
Total.....	127,823,016 18

TOTAL CREDIT.

Transportation services performed and money paid into the Treasury.

Union Pacific.....	\$16,496,975 73
Central Pacific.....	8,090,779 87
Sioux City and Pacific.....	131,138 32
Central Branch Union Pacific.....	169,328 18
Total	24,888,222 10
Balance in favor of the United States, but not due until maturity of principal, 1895-1899.....	102,934,794 08

RECAPITULATION.

Due from Union Pacific	\$50,142,090 49
Due from Central Pacific.....	46,557,045 14
Due from Sioux City and Pacific.....	3,159,178 37
Due from Central Branch Union Pacific.....	3,076,480 08
Total	102,934,794 08

CONDITION OF SINKING-FUND ACCOUNTS.

The sinking funds of the Union and Central Pacific Companies, held by the Treasurer of the United States under the act of May 7, 1878, amounted to \$6,084,099.82, on June 30, 1884, the Union Pacific having to its credit \$3,435,576.34 and the Central Pacific \$2,648,523.48.

Investments have been made by the Secretary of the Treasury as follows :

Character of bonds.	Union Pa- cific.	Central Pa- cific.	Total
Funded loan of 1881 (5 per cent.).....	\$256,450 00	\$736,700 00	\$993,150 00
Funded loan of July 12, 1882 (3 per cent.)	1,620,000 00	.....	1,620,000 00
Funded loan of 1907 (4 per cent.).....	32,650 00	199,100 00	231,750 00
Currency notes	361,000 00	444,000 00	805,000 00
Principal	2,270,100 00	1,379,800 00	3,649,900 00
Premium paid.....	172,990 43	179,563 73	352,554 16
Total cost.....	2,443,090 43	1,559,363 73	4,002,454 16

The amounts remaining in the United States Treasury *uninvested* on June 30, 1884, were as follows:

Credit of the Union Pacific.....	\$992,485 91
Credit of the Central Pacific.....	1,089,150 75
Total	2,081,645 66

The last investments for the Union Pacific were made during the month of March, 1884, the sum of \$1,620,000 having been invested in the 3 per cent. funded loan of July 12, 1884, at a premium of \$48,925, or an average of 3.02 per cent. The total investments for this company amount to \$2,270,100, at a premium of \$172,990.42. The interest on the

sinking-fund investments to June 30, 1884, amounted to \$139,127.97, or \$33,862.45 less than the premium paid. The amount remaining in the Treasury uninvested June 30, 1884, was \$992,485.91.

No investments have been made for the Central Pacific since November 27, 1882. The total investments for this company amount to \$1,379,800, at a premium of \$179,563.72. The interest on the sinking-fund investments to June 30, 1884, amounted to \$170,107.83, or \$9,455.90 less than the premium paid. The amount remaining in the Treasury uninvested June 30, 1883, was \$844,652.13, and June 30, 1884, it had increased to \$1,089,159.75.

Reference to the foregoing table shows that June 30, 1884, the sum of \$2,081,645.66, belonging to the sinking funds of the two companies remained in the Treasury Department uninvested. The Commissioner suggests that this amount be immediately invested in order that the several sinking funds may earn a reasonable rate of interest.

The Commissioner again calls attention to the controversy between the Government and the Union Pacific Railway Company as to what constitutes "net earnings" under the act of May 7, 1878. The correspondence bearing on this subject was printed in his report for 1883, pages 31-36. A bill to authorize the funding of the debts of the Pacific Railroads being under discussion in the Committee on the Judiciary of the Senate, Mr. Charles Francis Adams, jr., then a director of the Union Pacific Railway Company—now president—addressed a communication, under date of June 17, 1884, to Hon. George F. Hoar, a member of the committee, in which he proposed as a basis of settlement pending action of the courts, that no dividends should be paid on the stock of the company during the current year; that the Government should withhold payment for all services rendered, not only on the aided but the non-aided portions of the road, and that the company should forthwith pay into the Treasury on account of the sinking fund the sum of \$718,814.60, being the amount found due the United States, in cash, for the year ending December 31, 1883. On the same date Hon. George F. Edmunds, chairman, informed this Department that the Committee on the Judiciary of the Senate had passed the following resolution:

Resolved, That this committee will postpone until the first Monday in December, 1884, the further consideration of the matters arising under the act of May 7, 1878, relating to the Union Pacific Railroad Company, &c., if the said company shall immediately carry out the offer of Mr. Adams, as stated in his communication dated June 17, 1884, addressed to the Hon. George F. Hoar, and on the express understanding that this action of the company and of the United States in receiving the money and security in said communication mentioned shall have no effect on any penalty or forfeiture or other right of the United States incurred or arising, or to occur or arise, against the said company or any of its officers, but that all rights, penalties, and forfeitures shall stand as if these acts had not been done.

Pursuant to this arrangement the Union Pacific Railway Company deposited with the Assistant Treasurer of the United States at Boston, June 20, 1884, the sum of \$718,814.60, to be carried to the credit of the

sinking fund, "but it is not to be considered that the company assents to the Government's statement or claim of the amount of net earnings, or the elements that should enter into the determination of them. The company also reserves the right to have a judicial determination of the amounts to be paid by the Government for transportation, and also what shall be deducted from gross earnings in order to ascertain net earnings." The company has also filed, under its corporate seal, an assignment of all its earnings for transportation services rendered for the Government over all lines owned and operated by it. This assignment remains in force until matters in dispute are finally determined. The full correspondence on the subject will be found in the Commissioner's report.

The total balance claimed by the Government as due in cash from the Union Pacific Railway Company under the act of May 7, 1878, for the period from July 1, 1878, to December 31, 1882, amounted to \$1,727,742.54, but the sum of \$69,358.83 deposited with the Assistant Treasurer at Boston July 26, 1881, having by consent of the company been accepted June 30, 1884, as a payment on account and covered into the sinking fund, this amount is reduced to \$1,658,383.71. If the whole amount claimed by the company on account of the contested items for new construction and new equipment should be deducted, there would still remain an uncontested balance of \$967,486.05, which the company claims is overpaid by the additional allowance it will receive for carrying the mails.

The following statements show the financial condition of the Union and Central Pacific Railroad Companies June 30, 1884:

Union Pacific Railway Company.

LIABILITIES.

Funded debt.....	\$81,680,332 50
Interest on funded debt accrued not due.....	797,729 99
United States subsidy bonds.....	33,539,512 00
Interest on United States subsidy bonds accrued not due	33,099,554 22
Bills payable	\$7,205,533 14
Accounts payable.....	2,542,423 57
Pay-rolls and vouchers.....	1,969,996 52
Dividends unpaid.....	83,884 77
Coupons due and unpaid	1,276,182 90
Called bonds.....	32,000 00
	<hr/>
	13,110,020 90
	<hr/>
Total debt.....	165,227,149 61
Capital stock.....	60,868,500 00
	<hr/>
Total stock and debt.....	226,095,649 61

ASSETS.

Cost of road and equipment.....	\$157,728,147 11
Fuel, material, and stores on hand.....	2,482,243 67
Cash on hand.....	1,192,070 86
Company's stocks and bonds owned by company	2,072,353 09
Sinking funds in hands of trustees—cash.....	170,802 21
Bills and accounts receivable.....	2,913,419 00
Bonds and stocks of other companies—cost.....	36,853,444 51
Miscellaneous investments.....	966,612 14
Interest repaid the United States by transportation.	7,637,344 18
Due from United States for transportation.....	9,698,252 11
Land contracts and land cash	13,639,479 09
Advances payable in bonds and stocks.....	7,387,095 50
Sinking funds in United States Treasury.....	2,270,100 00
	<hr/>
	\$245,011,363 47
Surplus, including land sales.....	18,915,713 86
	<hr/>
Surplus, excluding land sales	8,628,882 38

Central Pacific Railroad Company.

LIABILITIES.

Funded debt.....	\$53,153,000 00
Interest on funded debt accrued not due	1,352,565 00
United States subsidy bonds.....	27,855,680 00
Interest on United States bonds accrued not due.....	26,792,145 01
Bills payable	\$5,975,000 00
Accounts payable	4,028,497 61
Hospital fund.....	43,256 74
Interest and dividends unpaid.....	131,966 00
	<hr/>
	10,178,720 35
Sinking fund uninvested.....	1,069,091 68
Trustees' land mortgage.....	635,653 30
	<hr/>
Total debt.....	121,036,855 34
Capital stock	59,275,500 00
	<hr/>
Total stock and debt.....	180,312,355 34

ASSETS.

Cost of road....	\$141,327,529 90
Cost of equipment	8,297,118 98
Real estate, shop. &c.....	3,282,283 90
Cash on hand.....	167,575 76
Fuel and material on hand.....	4,821,999 54
Stocks and bonds owned	1,086,078 32
Miscellaneous investments.....	1,525,373 37
United States transportation and sinking-fund ac- counts.....	8,918,162 07
Company's sinking fund.....	5,943,016 68
Bills and accounts receivable.....	900,757 64
Amount in hands of trustees of land mortgage to re- deem bonds.....	635,653 30
Land cash, notes and contracts.....	1,081,530 41
	<hr/>
	177,987,079 87
Balance, deficit	2,325,275 47

The company estimates farming lands unsold at \$25,250,000 and water-front and lands in San Francisco, Oakland, and Sacramento at \$7,750,000—in all, \$33,000,000—in addition to the above assets.

The Commissioner again invites attention to the subject of the funding of the debts of the several Pacific railroads, and renews his suggestion that the present uncertain mode of payment be commuted to one of fixed obligations having the same lien. It is manifest that the act of May 7, 1878, has not adequately accomplished its purpose. It would seem of the highest importance that Congress take immediate and final action looking to the ultimate payment of this indebtedness. Under existing law the debt is steadily increasing at the rate of over \$1,000,000 per annum. I am of opinion that the best method of dealing with this indebtedness would be to authorize the funding of the debt on an extension of time, and to require the payment of fixed amounts at stated periods. In consideration of this extension, the companies should be required to file assignments of all earnings already accrued for Government transportation over non-aided portions of their roads. All future earnings for like services over all roads owned, leased, or operated by these companies should be pledged by the terms of the act to the payment of the accruing installments of the debt as they mature.

If it be not deemed by Congress expedient to thus fund the debt, the discretion of the Secretary of the Treasury as to the investment of the sinking fund which is now confined to 5 per cent. United States bonds should be enlarged, as the interest of the whole investment thus far made has not yet equaled the premiums paid for the bonds.

THE TENTH CENSUS.

The report of the Superintendent of Census shows that eight volumes of the Census Reports have been published, and that volume nine will be published during the month of November. Other volume will follow as rapidly as possible. The Superintendent makes the following statement:

By the terms of the act of July 7, 1884, making appropriations for sundry civil expenses, it was provided that the sum of \$30,000 should be appropriated "for the work of taking the Tenth Census and closing the Bureau on January 1, 1885." With the retention of the entire force employed at the date of the passage of this bill it would have been impossible to complete the final report within the limitation of time therein prescribed, but the inadequate sum appropriated necessitated a heavy reduction in our clerical force, and has thereby correspondingly delayed the work of the office.

Furthermore, the same act authorized the printing of additional copies of the Compendium of the Tenth Census and of various monographs, thus devolving upon the Superintendent and his already crippled force a serious burden of extra labor.

I have, therefore, the honor to request a recommendation may be submitted to Congress that the time for the completion of all tabulation and the preparation of all original matter for the final report on the Tenth Census be extended until July 1, 1885; that the additional sum of \$45,000 already submitted as estimate for a deficiency in the present fiscal year be appropriated, and that the further appropriation of

\$10,000 be made for the expenses of such force as shall be required in this office during the fiscal year ending June 30, 1886, for revision, proof-reading, &c., in co-operation with the office of the Public Printer while the remaining volumes of the report are being published.

THE GEOLOGICAL SURVEY.

In the work of the Geological Survey there has been a material increase in comparison with preceding years. The work of this Bureau is greatly varied in character, but may be said to consist of two principal divisions, one of topography and one of geology. The topographical work has during the past year been prosecuted with vigor in many portions of the United States, both East and West, and its principal extensions have been in the New England and South Atlantic States. The State of Massachusetts has appropriated the sum of \$40,000 to be available for the period of three years, for the purpose of co-operating with the United States in the preparation of a map of that State which shall be suitable for the economic and political purposes of the Commonwealth, and also suitable for geological purposes. Rapid progress has also been made in the topographical survey of the Southern Appalachian region, which has hitherto been comparatively little known in respect to its topographical and economic features. The total area surveyed during the year in the Southern Appalachians was about 19,750 square miles. In Northwestern New Mexico and Northeastern Arizona an area was surveyed aggregating about 22,000 square miles, a large portion of which has been found to contain important deposits of good coal, while other portions are heavily timbered and others suitable for pasturage. Topographical surveys have been conducted also in California, Oregon, Montana, and Nevada, all subsidiary to a general economic and geological map of the United States, and of special importance in relation to certain geological investigations of an economic character.

The purely geological work of the Survey now employs a large number of distinguished scientific specialists, and the range of investigation is very wide. These investigations consist of surveys in structural geology and the distribution of geological formations, together with the minerals and ores contained in the formations. A division has been organized for the study of the volcanic rocks of the United States, especially in relation to the occurrence of gold and silver ores. Another has been organized for the study of metamorphic rocks, in which a large part of the iron and copper ores of the United States are found. Other divisions have been organized for the general study of the sedimentary rocks, embracing the great coal-fields of the country. Special economic studies are also prosecuted in important mining districts, as at the Leadville, Silver Cliff, and Gunnison districts in Colorado, the quicksilver districts in California at New Idria, Knoxville, Sulphur Bank, and elsewhere, and also in Nevada in the Washoe and Eureka districts. Another division has been organized for the purpose of study-

ing the glacial formations extending in northern latitudes from the Atlantic to the Pacific.

In addition to the above investigations, the Survey has prosecuted research in many subjects essential to the progress of geological science, especially relating to the succession and distribution of fossils, the chemical constitution and microscopical structure of rocks, minerals, and ores, and the occurrence and characteristics of mineral springs, hot springs, and geysers. In connection with all this work, large quantities of fossils, rocks, ores, minerals, and mineral waters have been collected for examination, all of which will be finally placed in the National Museum.

Through the courtesy of Prof. Spencer F. Baird, Secretary of the Smithsonian Institution, rooms in the National Museum have been placed under the control of the Geological Survey, and in them the laboratories essential for prosecuting these researches have been organized and equipped. This is believed to be especially advantageous to the Survey, from the fact that its collections are deposited in the Museum, and the laboratories in which the researches are conducted are conveniently arranged in respect to the materials to be studied.

An important work inaugurated by the Survey is the collection of statistics, showing the mineral resources of the United States, which is designed to give annually as accurate a summary as possible of the production of all metals and minerals within the United States. The collection of statistics relating to gold and silver is not directly made by the Geological Survey, as that work is performed by the Director of the Mint. The importance of the collection of statistics of mines and mining cannot be overestimated, and the large demand for the first published volume shows the general interest which is felt in the subject.

In the operations of the Geological Survey, extending as they do over a wide field of scientific research, it has been found necessary to have a library of the publications of the world relating to the subject of research prosecuted by the members of the Survey. Good progress has been made in the collection of such a library, chiefly by exchanging the publications of the Survey for those of other scientific institutions.

The report of the Director is accompanied by a map on which are indicated the districts in which surveys have been prosecuted through the year, and the character and extent of the work accomplished are clearly set forth therein.

BUREAU OF EDUCATION.

The Commissioner of Education reports that the demands upon his office have been greater than in any previous year.

Much additional labor has arisen from the increased number of school officers and teachers visiting the office to consult the pedagogical library and museum. The number of volumes in the library has risen to 16,500 and the number of pamphlets to 42,100. In consideration of the want

which the library meets, as indicated in the incessant call for information, the Commissioner is surprised that the appropriation for the purchase of books for the ensuing year has been cut down \$500. The work on the card catalogue so necessary for effective administration has been delayed by the necessity of employing the assistants in other departments of office labor. It has been impossible to answer the many demands for the printing of this catalogue. Considerable additions have been made to the pedagogical museum, taking into account the small sum of \$2,000 appropriated. The resources of the museum are entirely unequal to the loans demanded of it. In answer to most urgent solicitations, a small exhibit of educational appliances and conditions was furnished, without expense to the office, to the Louisville Exposition; most emphatic evidence has been afforded that many teachers and school officers gained from this exhibit valuable ideas of improved methods of instruction. In all countries the exhibition of appliances has been found the most effective means of promoting their adoption and improvement. Our schools generally suffer from the lack of these material aids, and it is important that the office should be supported in the endeavor to create among the school authorities an intelligent appreciation of their use and value. The clerical force of the office is not sufficient for progress to be made in cataloguing the collection of the museum.

The work on the report of 1881 was completed during the first part of the fiscal year, and by a most strenuous effort the report for 1882-'83 was substantially finished before the close of the same period. This concentration of the force of the office upon the preparation of the report curtailed the efforts of the office in other directions so much that the communications sent out show a falling off of nearly 9,000. He reports that it is utterly impossible to do the work required by law without an increase in the clerical force. The documents sent out numbered 258,340. These covered a variety of important topics, and to a considerable extent were placed in the hands of teachers in attendance upon normal institutes. The Commissioner notes the fact that there has been no considerable improvement in methods or progress of education in any quarter of the country in respect to which the aid of the office has not been invoked.

The communications addressed to the office, personal visits of teachers and school officers, the Commissioner's travels, and the requests for criticism and suggestion sent to every one receiving documents have promoted the closest sympathy between the office and those actively engaged in advancing the intelligence of the people and dealing with questions of instruction, whether public or private.

Clearer views and more intelligent counsels are observable with respect to the most critical problems that have been under consideration for several years past. The forces that control education are better organized than formerly, the discussions in the meetings of teachers are

characterized by greater breadth, and the teachers in different parts of the country are brought into closer sympathy, and greater national demonstrations are foreshadowed. During the year legislation has been secured in several States, increasing the efficiency of the school systems.

The colleges of agriculture and the mechanic arts endowed by the national land grant, together with similar institutions supported by private benefactions, have taken a leading part in the advance that has been made in respect to industrial education.

Under both public and private auspices this department of training has been greatly extended during the year in several cities.

As in former years, private benefactions to education have been liberal. The claims of higher education have not been overlooked. The standards of collegiate instruction have been very generally raised and the facilities for extended study in special directions noticeably increased. Professional schools have shared in the general progress. It is particularly gratifying to note the efforts made to improve the standards of our medical schools and thus secure the health of the people against malpractice.

The provision made by Congress for the establishment of government and the enforcement of law in Alaska and the small appropriation of money for the support of schools for the children of that country make it possible to establish schools there with some hope of success. The Commissioner believes that not less than \$50,000 should be appropriated for general school purposes for Alaska. In his judgment, no event connected with education during the year has excited so much approving attention or produced so profound an impression as the debate in the United States Senate upon the subject of granting aid from the national Treasury. He believes that there is the most abundant evidence that the intelligence and patriotism of the country have rarely been so united in urging any measure of legislation.

The Commissioner again renews his recommendation that some measures of Federal aid be extended to public primary education, based on the number of illiterates in the various States, as shown by the Tenth Census. I fully concur in this recommendation, and, as I have in former reports, urge the necessity of immediate and substantial aid on the part of the General Government. I am of the opinion that the school system of the several States should not be interfered with by such aid, and that it is not wise for the General Government to attempt to build up a school system of its own, but that all national appropriations for school purposes should be placed under the control of the States, with only such guards as shall secure its faithful application to the purpose for which it was appropriated. Such material aid should be temporary in its character, to cease when the States shall have perfected a system and made suitable appropriation for the education of all children of school age. The ability of the State to do this will increase as its number of illiterates disappear and their places are taken by educated people.

YELLOWSTONE NATIONAL PARK.

During the year additional leases of ground within the Park for hotel purposes have been granted; one site at the Lower Geyser Basin, to G. W. Marshall, and the other to John F. Yancy, at what is known as Pleasant Valley on the mail route from Mammoth Hot Springs to Cooke, Mont. Houses at these places, together with the hotel at Mammoth Hot Springs and temporary camps at other points of interest, were open for the entertainment of visitors during the past season.

In granting leases no exclusive privileges have been given to any person or company, either in terms or in effect, and in all cases conditions have been imposed intended to secure suitable provision for the comfort of tourists, and at the same time by reserving to the Department the right to regulate the charges for such service, to prevent any overcharge. No complaint of violation of such conditions on the part of the lessees has been received. The legislature of Wyoming at its last session made provision for justices of the peace and constables for duty in the Park, whose presence and aid will contribute materially toward preventing infractions of law, and of the regulations for the protection of the game and objects of interest in the Park.

HOT SPRINGS, ARKANSAS.

The work in the improvement of the Hot Springs Creek adjacent to the reservation, according to the plan outlined in my last annual report, has been substantially completed. The creek has been straightened and confined within arched walls of masonry throughout the whole length of the reservation, and the old bed of the creek has been filled, giving a roadway 100 feet in width on Central avenue where, before the improvement, it was impossible in some places for vehicles to pass. Iron pipes have been laid along the course of the walls for the purpose of collecting the hot water from the springs, and conveying it to a proposed common reservoir for distribution to the bath-houses.

There are now in operation upon the reservation seven private bath-houses, built upon sites leased under authority conferred upon the Secretary of the Interior by the act of December 16, 1878. These leases were granted for five years, the term prescribed by the statute, commencing from the date of approval of the act. They therefore expired December 16, 1883. A doubt having arisen as to the authority of the Secretary of the Interior to renew these leases, the attention of Congress was invited to the subject in a communication dated January 11, 1884 (Senate Ex. Doc. 60). No legislative action was taken in the direction of defining the scope of the authority of the Department in the matter. The leases have not been renewed, but the lessees have been permitted to remain in possession under the terms of the expired leases. Two sites were leased during the fiscal year ended June 30, 1883, and three have

been leased during the past year. The dates of commencement of the terms of these leases conform nearly to the dates they were granted. The erection of bath-houses upon these sites has been retarded by the work upon the contiguous creek improvement. The Superintendent reports 35,058 free baths given during the year, an average of 97 per day. One hundred and fifty lots upon the reservation sold at auction in Little Rock, in May last, brought \$29,803.

FREEDMEN'S HOSPITAL.

The surgeon in charge of the Freedmen's Hospital reports the whole number of patients admitted during the year as 1,509, being an average admission of 125 per month. Of those admitted 649 were white and 860 colored. About 215 ex-soldiers have been admitted and treated. A greater number of the patients of this class came from distant sections of the country to look after their pension claims and becoming sick were admitted to the hospital. The majority of the patients were admitted upon the recommendation of the chief of police of the District of Columbia. No distinction is made in favor of any class, race, or sex, and patients are admitted for treatment for any disease except small-pox.

In the dispensary of the hospital 2,456 persons have been prescribed for during the year. Supplies for the hospital during the year were purchased under contract, and the articles were fully equal in quality to those heretofore purchased in open market, at prices very much less. This system has resulted in a saving of at least \$2,000 in subsistence alone.

COLUMBIA INSTITUTION FOR THE DEAF AND DUMB.

The number of pupils instructed during the year was 126; males 107, females 19. Of these 54 were in the collegiate department. No deaths have occurred among the pupils, and general good health has prevailed.

Four students of the college were graduated with the degree of bachelor of arts, and the several departments of instruction have been carried on with gratifying results.

Prof. Samuel Porter, who has been an instructor of deaf-mutes in the United States for more than fifty years, eighteen of which have been spent in connection with the college, has been made emeritus professor.

The current expenses of the Institution for the year amounted to \$60,610.23, of which sum \$55,000 were appropriated by Congress. The \$3,000 also appropriated by Congress for the improvement of grounds and the repairs of buildings were used for the purposes designated.

The amounts asked by the directors for the next fiscal year are: For current expenses, \$55,000; for the extension of the buildings for the purpose of providing additional school room for the instruction of the pupils in industrial labor, \$25,000.

The need for the appropriation of this last amount is very strongly urged by the directors.

- The report calls attention to the fact that during the past year public interest in the cause of deaf-mute instruction has been greatly increased by the discussion of the subject before several scientific associations and in two conventions of officers and instructors of institutions for the education of the deaf.

GOVERNMENT HOSPITAL FOR THE INSANE.

The board of visitors of the hospital report that the building designed to provide for patients received from the Home for Disabled Volunteer Soldiers has been completed and occupied during the year, affording accommodations for 150 patients, about one-fourth of that number in single rooms. The building has been well and carefully built of fire-proof materials, and neatly furnished throughout. The completion of the new wing of the main hospital affords accommodation for about 70 of the most refractory and noisy of the female patients. A new kitchen, 65 by 45 feet, has also been added, relieving the main building from the heat and odor of the cooking.

The estimate for the support, clothing, and treatment of patients for the fiscal year ending June 30, 1886, is \$270,000, and for buildings, grounds, general repairs, &c., \$10,000. The board of visitors also recommend appropriations for certain additional buildings and improvements, and for the purchase of a tract of land of 45 acres adjoining the hospital farm, the necessity for which, as set forth in the report, would seem to commend the subject to the favorable attention of Congress.

The number of patients under treatment June 30, 1883, was 994; admitted during the fiscal year 1884, 347; discharged, 128; died, 67; number remaining June 30, 1884, 1,146. Of those remaining in the hospital, 884 are males and 262 females; from the Army, 550; Navy, 61; Revenue Marine Service, 19; civil life, 516. Those from civil life are classed as follows:

	Males.	Females.
District of Columbia:		
Transient	25	11
Resident indigent	208	242
Convicts and criminals	10	.....
United States:		
Convicts and criminals	9	.....
Private patients	5	6

The total amount expended for all purposes of the hospital during the year was \$359,128.41. The products of the farm and garden were valued at \$34,220.21.

ARCHITECT OF THE CAPITOL.

The Architect reports that changes which have been made in the designation of rooms for committees of Congress in the Capitol building have occasioned an unusual amount of refitting and repairing to provide satisfactory accommodations. The Senate post-office has been removed from the principal story to the large hall in the northeastern part of the basement. The appliances for heating the central and south portions of the building have been thoroughly repaired and improved and the exterior of the central building newly painted.

At the City Hall steam coils have been extended from the boilers in the new portion of the building to a part of the old building. The Architect recommends, as a measure of economy and comfort, that provision be made for extending the heating apparatus throughout the whole of the old building and for preparing the rooms in the upper and basement stories of the building for occupancy. Appended to Architect's report is an interesting statement showing the results of the removal and replanting (in 1875-'76) of trees in the Capitol grounds.

NEW PENSION BUILDING.

Since my last report considerable work has been done on the new pension building, which has been raised on the south and west fronts $64\frac{1}{2}$ feet above the site. Three vaulted floors are entirely completed, supporting 107 rooms. The expenditures to October 27, 1884, have been \$447,436.22, leaving a balance available for the building and heating apparatus of \$259,123.40.

RECONSTRUCTION OF THE INTERIOR DEPARTMENT BUILDING.

The work of reconstructing the south wing of the building occupied by the Interior Department has steadily progressed, and will probably be completed within the next four months.

The additional room which will then be available can be occupied in part by the clerical force of the Department, and in a measure relieve some of the offices which are now seriously overcrowded.

It was estimated that the sum of \$151,000 would be required to complete the reconstruction of this wing, and that the sum of \$18,000 would be necessary for supplying a new heating apparatus. The first amount was appropriated in full, but in place of the second amount only \$2,000 was provided. In the course of the work the heating apparatus was found to be so corroded as to be beyond the possibility of a mere repair; this, together with the increase in the cost of labor during the past season, has made it impossible to keep within the appropriation, and, in order to complete the work thoroughly, a deficiency of \$18,849 remains

to be provided for, the urgency of which should receive the early attention of Congress. This being provided for, the south wing will not only soon be completed, but the galleries will be nearly all furnished with wrought-iron model-cases, and with an appropriation of \$7,000 the additional model-cases which will be necessary can be provided.

After the completion of the south wing, the fire-proof reconstruction of this building should be continued by extending the work over the east wing, and for this an estimate has been laid before Congress.

THE CIVIL SERVICE ACT.

At the time of the passage of the act entitled "An act to regulate and improve the civil service of the United States," it was urged as an objection to it that the examinations would be of such technical character as to exclude from the public service all except those who have had the advantages of a liberal education. The experience of nearly one year and a half has demonstrated that these fears were groundless, and that the examinations have been conducted on a sound and business-like basis, calculated to secure efficient clerks for the various grades of the public service. Quite a number of the employés of the Government, occupying grades below the classified service, have been found qualified for higher grades by the examinations of the Commission. No call was made from the Interior Department on the Civil Service Commission to fill vacancies occurring in the clerical force until May, 1884, because at the time of the passage of the act there were employed in the Census Office a large number of trained and experienced clerks from which I considered it a duty to the public service to select to fill the vacancies occurring in other bureaus of the Department.

Originally the force of the Census Office consisted of about eighteen hundred persons; as the work of that office advanced towards completion there was a necessary reduction in the force; some were discharged, others transferred to other Bureaus until the 16th of July, 1883, when the force had decreased to about one hundred and seventy-five. In making transfers and discharges the most efficient and valuable clerks had been retained, and it is doubtful whether there could have been found in the employment of this or any other Government more trustworthy and capable clerks than constituted this force. I did not think it advisable to allow a disciplined force of this character to be lost to the Government, and when any portion of this force could be spared from the work of the Census Office I filled the vacancies occurring in the several Bureaus of the Department from such force. This was done with the approval of the Board of Civil Service Commissioners.

Since the 23d of May last there have been appointed in the several Bureaus of the Department through the Civil Service Commission a total of two hundred and thirteen clerks, copyists, and special examiners. All persons engaged in clerical work have been brought within

the classified service, save only those especially excepted by the statute and rules made thereunder. Thus the classified service in the Interior Department includes all clerks of class one, two, three, and four, clerks receiving a salary of \$1,000, and all copyists receiving a salary of \$900 and \$720.

Of the number appointed I believe the most have proved themselves efficient and valuable clerks, but the length of their service has been too short to speak with confidence as to their general fitness for the work assigned to them. The law has in a great measure relieved the Department of the importunities of applicants and their friends for positions, and will, I think, when it is fully understood, save the heads of the Departments much time heretofore lost in listening to appeals for positions when it was impossible to comply with such requests. I think the system a valuable one, and one that should have the hearty support of both executive and legislative departments of the Government.

I have the honor to be, very respectfully,

H. M. TELLER,

Secretary.

The PRESIDENT.

PAPERS

ACCOMPANYING

REPORT OF THE SECRETARY OF THE INTERIOR.

REPORT OF THE COMMISSIONER OF THE GENERAL LAND OFFICE.

DEPARTMENT OF THE INTERIOR,
GENERAL LAND OFFICE,
Washington, D. C., October 10, 1884.

SIR: I have the honor to submit herewith the annual report of the General Land Office for the fiscal year which ended June 30, 1884.

The sales, entries, and selections of public land under the various acts of Congress relating thereto embrace 26,834,041.03 acres, and of Indian lands 697,128.97 acres, making a total of 27,531,170 acres, an increase over the year 1883 of 8,101,137.20 acres, and an increase over the year 1882 of 13,222,003.50 acres.

The receipts from disposals of public lands are \$11,840,993.07, from sales of Indian lands \$938,137.26, a total of \$12,779,130.33, being an increase over the year 1883 of \$1,073,364.68, and an increase over the year 1882 of \$4,392,750.84, to which is to be added \$10,274.76 received for certified copies of records furnished by the General Land Office, making the total receipts for the year from all sources \$12,789,405.09.

The following is a statement in detail:

CASH SALES.

	Acres.
Public sales.....	200,002.34
Private entries.....	1,550,314.35
Pre-emption entries.....	3,206,095.86
Timber and stone land entries.....	339,419.89
Desert-land entries.....	951,807.92
Mineral-land entries.....	29,623.41
Coal-land entries.....	5,669.24
Town-lot entries.....	53.82
Town-site entries.....	1,504.36
Excesses on homestead and other entries.....	21,175.50
Abandoned military reservations.....	9,120.65
Total.....	6,317,847.34

MISCELLANEOUS.

Homestead entries (original).....	7,831,509.88
Timber-culture entries (original).....	4,084,463.87
Entries with military bounty-land warrants.....	26,586.04
Entries with agricultural-college scrip.....	320.00
Entries with private land-claim scrip (Supreme Court).....	3,936.74
Entries with Valentine scrip.....	2,117.22
Entries with Israel Dodge scrip.....	422.40
Entries with Sioux half-breed scrip.....	2,972.95
Entries with Chippewa half-breed scrip.....	160.00
Entries under settlers' relief act.....	160.00
Donation entries.....	4,849.35

Railroad selections.....	8,343,154.43
Wagon-road selections.....	27,710.21
Private land-claim selection.....	17,693.08
State selection, school, swamp, and internal improvements.....	156,612.08
Indian-homestead entries.....	13,395.44

Total area of public land entries and selections 26,834,041.03

INDIAN LANDS.

	Acres.
Cherokee school lands	931.45
Cherokee strip lands	68,961.41
Kansas trust and diminished-reserve lands.....	13,741.76
Kickapoo lands	1,134.66
Miami lands	1,568.82
Osage ceded lands	1,201.23
Osage trust and diminished-reserve lands	543,365.83
Otoe and Missouri lands.....	42,266.40
Pawnee lands.....	10,461.94
Sioux lands.....	4,888.72
Ute lands.....	8,607.25
	697,128.97

Making a grand total of..... 27,531,170.00

The foregoing does not include the following entries, the areas of which have previously been reported in the original entries of the respective classes :

	Acres.
Commuted homesteads (section 2301 Revised Statutes)	1,200,743.78
Commuted homesteads (act of June 15, 1880)	225,444.99
Final desert-land entries	59,898.00
Final homestead entries.....	2,945,574.73
Final timber-culture entries.....	91,599.66

Total areas previously reported.....,.... 4,523,261.25

In addition to the foregoing, and not included in the total areas of current sales, entries, and selections, are pre-emption, homestead, and miscellaneous filings, viz :

Number of pre-emption filings	51,641
Number of soldiers' declaratory statements	1,939
Miscellaneous filings	13,875

Total..... 67,455

The area of lands embraced in these filings aggregates 9,000,000 acres.

CASH RECEIPTS.

From cash sales.....	\$10,302,582.49
From homestead fees and commissions.....	870,461.48
From timber-culture fees and commissions.....	368,798.79
From military bounty-land-warrant locations	765.00
From fees on scrip locations	129.00
From fees on pre-emption and other filings.....	187,333.00
From fees for reducing testimony to writing.....	2,136.32
From fees on donation claims.....	135.00
From fees on State selections.....	1,998.94
From fees on railroad selections	104,308.12
From fees on wagon-road selections.....	344.93
From amount of cash substituted for canceled land warrants received by General Land Office.....	2,000.00

Total receipts from public lands.....	11,840,993.07
Receipts from disposals of Indian lands (trust funds).....	938,137.26
From fees for transcripts of record furnished by General Land Office.....	10,274.76

Total..... 12,789,405.09

ENTRIES AND FILINGS.

The total number of entries and filings made during the year is 286,812, aggregating 40,625,000 acres, an increase of 60,724 over the year 1883, and 128,588 over 1882.

The total number of entries and filings posted during the year is 327,186. These entries and filings constitute claims of record awaiting completion and adjudication. The increase in number of claims posted in 1884 is 75,501 over the year 1883, and 131,049 over the year 1882.

The number of entries approved for patenting under the pre-emption, homestead, timber-culture, desert-land, and other settlement and agricultural laws is 60,276, an increase over the previous year of 6,429.

Five thousand nine hundred and seven contested cases were examined and acted upon.

Eleven hundred and thirty-nine claims were confirmed by the board of equitable adjudication.

AGRICULTURAL PATENTS.

The number of patents issued on the various classes of entries and locations under the general land laws is 51,337, an increase over the previous year of 855.

CASH SALES.

The number of private cash entries is 9,894, embracing 1,550,314.35 acres, a decrease of 629,640.79 acres; 3,206,095.86 acres were sold under the pre-emption law, an increase of 920,385.51 acres; 1,426,188.77 acres are embraced in commuted homesteads, an increase of 190,068.81 acres.

The total cash sales, including land sold at public and private sale, pre-emption, commuted homestead, mineral lands, timber and stone lands, &c., amount to 7,803,934.20 acres. The amount of receipts from cash sales is \$10,302,582.49, an average of a fraction over \$1.32 per acre.

PUBLIC SALES.

Three thousand one hundred and eighteen tracts of land, embracing 200,002.34 acres, were sold at public sale in the various land districts, at an average price of \$2.94 per acre.

PRE-EMPTION.

Twenty-one thousand two hundred and eighty-six pre-emption entries were made during the year, embracing an area of 3,206,095.86 acres; 11,012 *ex parte* cases were approved for patent, and 352 contested cases were decided, the patented and decided cases involving 1,725,000 acres.

The number of cases undecided June 30, 1884, was 17,911, an increase of the number in arrears of 4,854 contested and *ex parte* cases. The number of pre-emption filings made during the year was 51,641, which, at 160 acres each, would cover 8,262,560 acres.

REPEAL OF THE PRE-EMPTION LAW.

I renew previous recommendations for the repeal of the pre-emption law. In my last annual report I pointed out the absence of any great utility of the pre-emption system for a legitimate appropriation of the public lands by actual settlers, as the homestead system contains a

sufficient pre-emption feature, and a double system is not required. Economy of administration alone suggests such repeal, while the great abuses flowing from the illegal acquisition of land titles by fictitious pre-emption entries, and the exactions made upon *bona fide* settlers, who are often obliged to buy off such claims in order to get access to public lands, render the repeal, in my judgment, a matter of public necessity.

Pre-emption claims are filed when no intention of perfecting entries exists, but the alleged claim is held for speculation, or as a cover for denuding land of its timber. The average proportion of entries to filings is less than one-half.

In cases of entries actually made, it is found that the most valuable timber lands and large areas of agricultural and grazing lands are entered in fictitious names or by persons employed for the purpose, and the lands thus pass into speculative holdings, or holdings in large quantities for permanent control. Coal lands, the Government price of which is \$10 and \$20 per acre, are illegally obtained in the same manner at the minimum price of non-mineral lands. The Government loses the difference in price, while a loss to the general public lies in the increased price of the coal product in consequence of the control of coal fields, which in this way is acquired and held with a comparatively small outlay of capital. The result is equally true as to timber lands. Experience has demonstrated that an effective remedy for these evils can only be found in the repeal of the laws under which they arise.

HOMESTEADS.

The number of original homesteads during the year is 55,045, embracing an area of 7,831,509.88 acres, a decrease of 1,520 entries and 340,404.50 acres as compared with the year 1883. Final proof was made on 21,843 entries, embracing 2,945,574.73 acres, an increase over the previous year of 2,845 entries and 441,160.22 acres.

One thousand nine hundred and thirty-nine soldiers' homestead declaratory statements were filed, covering 310,240 acres.

COMMUTED HOMESTEADS.

The area embraced in commuted homestead entries is 1,426,188.77 acres, of which 225,444.99 acres were purchased under the special act of June 15, 1880, and 1,200,743.78 acres under the general commutation provision of the homestead laws.

The commutation feature of the homestead law is open to the same abuses as the pre-emption law. The alleged commutation settler is frequently a person employed at so much a month to sign entry papers and hold the claim long enough to enable his employer to secure title by commutation.

This system of illegal appropriation, which is especially made use of in obtaining title to lands of selected value and in large quantities, could be materially checked by an extension of the time within which a homestead entry may be commuted. The actual settler does not usually prefer to pay for his land when by continuing his residence upon it he can obtain title without price. It would be no hardship to require a period of residence sufficient to prevent the present easy evasion of the law. No time is fixed by statute as a condition of residence before commutation, but the same proof and payment may be made as in pre-emption cases. In these cases the regulations of this office require, as

a general rule, that residence of six months shall be shown, and the same rule is, under the law, applied in commuted homestead cases.

I deem it a matter not less important than the repeal of the pre-emption law that the homestead laws should be amended so as to require proof of actual residence and improvement for a period of not less than two years before a homestead entry may be commuted.

TIMBER-CULTURE ENTRIES.

Twenty-six thousand eight hundred and ninety-eight timber-culture entries were made, embracing 4,084,463.87 acres, an increase over 1883 of 6,297 entries and 973,533.64 acres.

Final proof was offered on 717 entries, embracing 91,599.66 acres.

REPEAL OF THE TIMBER-CULTURE LAWS.

The practical operation of the timber-culture act continues to show the result heretofore pointed out, viz, that lands are generally taken up under it for the purpose of speculation, and not for the cultivation of timber. To a great extent trees are not planted and grown as required by law, and it would involve an expense probably equal to the value of the land at Government price to effectually watch and attempt to prevent the misappropriation under this act.

In many districts of country one-quarter of every section is so entered immediately upon the filing of the township plat. The land becomes by this entry reserved against all other persons, and its disposal is controlled by the entryman for from one to several years, or until the "claim" is sold to some settler, who but for such intervention might have made his entry without payment except to the United States. The time during which speculative claims are so held prevents a *bona fide* appropriation. Trees are not usually planted until the land gets into possession of a settler, whose tree planting is then done without the inducement or benefits of the timber-culture law. The act is therefore of disadvantage to settlers, instead of being a benefit to them, and retards instead of promoting the cultivation of timber and the development of the country. I renew my previous recommendation that the timber-culture laws be repealed.

RELINQUISHMENT OF LAND ENTRIES.

Attention is again called to the expediency of the repeal of the first section of the act of May 14, 1880 (21 Stat., 140), providing that when a relinquishment of any pre-emption, homestead, or timber-culture claim is filed in the local land office, the land covered by such claim shall immediately become subject to entry by any other person, without awaiting the formal cancellation by this office of the relinquished entry.

The effect of this statute is to invite speculative entries for the purpose of selling relinquishments. The practical result is that when a new township is surveyed, large portions of the land are at once covered with filings and entries, relinquishments of which are then offered for sale like stocks in the market. To such an extent is this proceeding carried that it is becoming difficult for an actual settler to obtain access to a quarter-section of public land in desirable agricultural localities without buying off a pretended claim that has no foundation other than the facility afforded by this statute for making and relinquishing it.

DESERT LANDS.

Two thousand four hundred and twenty-nine desert-land entries were made, embracing 951,807.92 acres, an increase over the previous year of 1,175 entries and 515,174.23 acres. Final proof was made on 308 entries, embracing 59,898.09 acres.

Final proof and payment have not been made in a large proportion of entries heretofore recorded under this act. Hearings in contested cases and examinations by special agents have disclosed a want of any attempt to irrigate the land in many instances, that desert entries are frequently made of lands not desert in character, and that the purpose of the law in offering inducements for the reclamation of otherwise uncultivable land is not largely achieved in the operation of this act, but on the contrary the conditions of the act are not fulfilled, while wholesome restrictions as to the character of the land authorized to be entered, and the quantity to which title may lawfully be acquired by one person, are habitually evaded. It is found that lands taken up under this act are often used for stock-grazing, and that possession by single persons and corporations over quantities of land is obtained by collusive entries. Lands in valleys and along water-courses are appropriated ostensibly for reclamation, but actually for the purpose of controlling ranges dependent upon the water-supply and to prevent settlements interfering with such control. If the public lands are to be preserved for actual settlement, and unlawful appropriations of great areas are to be prevented, the desert-land act should be repealed.

TIMBER AND STONE LAND ENTRIES.

Two thousand three hundred and ninety-two entries, embracing 339,419.89 acres, were made under the timber and stone land act of June 3, 1878 (chiefly timber-land entries), being an increase of 291 entries and 41,684.39 acres over the previous year, in the States of California and Oregon, and Washington Territory, to which States and Territory, and the State of Nevada, only the act is applicable.

In my last annual report I stated as follows:

The restrictions and limitations of the act are flagrantly violated. Information is in my possession that much of the most valuable timberland remaining in possession of the Government on the Pacific coast is being taken up by home and foreign companies and capitalists through the medium of entries made by persons hired for that purpose.

I have found it necessary to suspend all entries of this class and to direct an investigation in the field with a view to the procurement of evidence in specific cases to authorize the cancellation of illegal entries and the prosecution of guilty parties.

The developments of the past year emphasize the foregoing statements relative to the prevalently illegal character of this class of entries. The result of the operation of the act is the transfer of the title of the United States to timber lands practically, in bulk, to a few large operators. The preventive measures at the command of this office have proven wholly inadequate to counteract this result. The requirements of the law are slight and easily evaded, and evidence of fraudulent proceedings rest so much within the knowledge of interested parties that specific testimony can rarely be obtained. Thus, while results are observable, easily demonstrated, and of common notoriety, the processes by which they are reached are difficult to trace in a legal proceeding. My experience in treating cases arising under this act satisfies me that public interests would be served by its repeal.

MINERAL LANDS.

One thousand nine hundred and eighty mineral entries of the public lands and twenty mineral entries of the Ute Indian lands were made during the fiscal year, embracing 29,683.41 acres and 919.10 acres, respectively, a total of 2,000 entries and 30,602.51 acres. There were 1,730 mineral applications filed on the public lands, and 42 on Ute lands, a total of 1,802 applications.

One hundred and eighty-four adverse claims were filed against entries of the public mineral lands, and eight against entries of Ute lands.

There were 50 coal entries of public lands and 10 of Ute lands, a total of 60 entries, embracing 5,669.24 acres and 1,449.49 acres, respectively, a total of 7,118.73 acres. There were also 585 public coal-land filings and 26 Ute, a total of 611 filings.

The above shows a decrease as compared with 1883 of 112 entries and 917.67 acres of mineral lands, 43 entries and 8,494.09 acres of coal lands, 510 mineral applications and 198 adverse claims, and an increase of 115 coal filings.

SWAMP LANDS.

The swamp-land selections reported to this office for adjudication the past year aggregate 1,482,182.79 acres, making a total of 71,938,140.37 acres selected under the swamp-land grant at the close of the fiscal year. Lists embracing 1,338,790.58 acres have been formally approved, making a total amount of 57,794,258.14 acres approved to the several States under this grant. The aggregate area finally approved or patented under the acts relating to swamp lands from the date of the passage of said acts to June 30, 1884, amounts to 55,438,285.19 acres.

SWAMP-LAND INDEMNITY.

Forty-three thousand six hundred and seventy and eighty-four one-hundredths acres were allowed and patented to the several States in lieu of swamp lands located after the grant with military bounty land warrants or scrip, making a total of 548,483.83 acres of indemnity lands so allowed and patented.

Cash indemnity claims were approved amounting to \$50,880.80. The total amount of swamp-land cash indemnity claims adjusted and allowed since the passage of the indemnity acts is \$1,280,252.15.

MILITARY BOUNTY-LAND WARRANTS.

Two hundred and forty-five military bounty-land warrants issued under the acts of 1847 to 1855, inclusive, embracing an area of 31,160 acres, computed at \$1.25 per acre, were located. The actual area of such locations, excluding areas heretofore reported, is 26,586.04 acres. Twenty thousand eight hundred and nineteen warrants are now outstanding, calling for 2,386,740 acres.

STATE SELECTIONS.

State selections under school, swamp, indemnity, and internal improvement grants were made during the year, aggregating 156,612.08

acres, a decrease of 57,958.42 acres. The following State selections were approved:

	Acres.
School indemnity	71,854.99
Agricultural college	736.71
University	802.10
Internal improvements	22,713.04
Total	96,106.84

This is a decrease of 82,517.77 acres as compared with the previous fiscal year.

TOWN SITES.

Seven town sites, embracing 1,504.36 acres, were entered during the year, and there were 303 sales of town lots.

Fourteen town sites and 227 town lots were approved for patent.

INDIAN LANDS AND MILITARY RESERVATIONS.

The proceedings of the Land Department in respect of lands embraced in sundry Indian and military reservations will be found in detail in this report.

ACCOUNTS.

Four thousand nine hundred and ninety-three accounts were examined and audited, covering \$11,636,925.82, an increase over the previous year of 1,323 accounts and \$2,226,894.40.

The adjusted accounts embrace receipts amounting to \$8,627,458.04, and disbursements to the amount of \$3,009,467.78.

CERTIFICATES OF DEPOSIT ON ACCOUNT OF SURVEYS.

The amount covered by certificates of deposit on account of surveys examined and accepted in payment for public lands during the year is \$462,269.47.

The amount deposited for surveys under the individual-deposit system was \$653,432.90.

REPAYMENTS.

Seven hundred and forty-seven repayment claims for lands erroneously sold were adjusted and approved, amounting to \$35,811.77.

STATE FUND ACCOUNTS.

The amount reported to the First Comptroller as accruing to the several States entitled by acts of admission into the Union to 5 per cent. of the net proceeds of sales of the public lands is \$191,335.65.

RAILROAD SELECTIONS.

Lists embracing 8,343,154.43 acres were reported to this office during the year as selected by railroads under the various grants by Congress; an increase of 6,423,818.72 acres over 1883.

Six hundred and forty-seven thousand one hundred and sixty-two and thirty-seven one-hundredths acres were certified or patented for railroads; an increase over the preceding year of 169,422.13 acres.

Forty thousand three hundred and sixty-three and eighty-two one-hundredths acres were patented to wagon roads.

Lists of selections were awaiting examination or action at the close of the fiscal year amounting to 11,861,608.50 acres; an increase of 8,791,155.09 acres.

Eleven hundred and eighty-nine applications to enter land within railroad limits were received; an increase of 736. Twelve hundred and nine contested and 5,086 *ex parte* cases of claimants of settlement rights within railroad limits are awaiting examination or action.

The number of miles of railroad reported to this office as constructed during the year under various grants is 1,076.08, making a total of 18,525.86 miles of road constructed under the several railroad grants.

The question of declaring a forfeiture of certain railroad land grants being prominently before Congress at the last session, and sundry bills declaring forfeitures having passed one or the other branch of that body, I have deemed it proper to suspend the issue of patents in all cases where this question is involved in pending legislative proceedings.

It is a reasonable public expectation, and has for some years been a pressing demand, that determinative action in respect of these grants should speedily be had. The administration of the Land Department is seriously embarrassed by the difficulty of adjudicating settlement claims within the limits of such grants so long as the legal status of the land is in question, and all parties are interested in having their respective rights adjudicated at the earliest moment.

PRIVATE LAND CLAIMS.

The number of private land claims finally settled during the year is 316, embracing 7 patented claims in California, 120 in Louisiana and Florida, and 1 in New Mexico; the issue of scrip in lieu of land in four cases in Louisiana and Florida; 106 Indian claims patented, and sundry donation claims disposed of and Supreme Court scrip locations patented.

UNSETTLED PRIVATE LAND CLAIMS IN NEW MEXICO, COLORADO, AND ARIZONA.

In my last annual report, referring to the great number of these claims, I stated as follows:

Nearly thirty years have elapsed since the passage of the act of July 22, 1854 (10 Stat., 308), providing for the settlement of these claims through their presentation to the surveyor general and the submission of his reports to Congress.

About seventy claims have been confirmed by Congress. Ninety-four are pending before that body, while an unknown number remains on the files of the surveyors general.

The claims presented under the act of 1854 (and subsequent acts, extending the provisions of that act to Arizona and Colorado) are chiefly in New Mexico and Arizona, a few only being in Colorado.

The presentation to surveyors general of claims for confirmation, whether the same are finally confirmed or not, operates as a statutory reservation of the land claimed, although the situation of the land and the quantity embraced in the claims are ill-defined and uncertain.

The existence of these undetermined and unsettled claims is a perpetual menace to the industrial occupation of the soil. Settlements are retarded, and to a large degree practically inhibited, owing to the liability that the land upon which a settlement is made may fall within the limits of some unconfirmed and unsurveyed grant. There is a further liability of the assertion of claims heretofore unknown. The increasing value of land, owing to increased facilities of communication and the general settlement of all the Territories, invites the assertion of such claims, and is an

incentive to the manufacture of fraudulent titles. The lapse of time favors claims of a doubtful character, and especially favors a broad expansion of original claims. Complaints have been made that grants have been confirmed by Congress or surveyed and patented under Congressional confirmations for a far greater quantity of land than is embraced in the grants.

The inadequacy of the present system of adjustment is shown by the statement just made, that only seventy claims out of a possible thousand have been settled, while less than one hundred more have been in any manner reported for action, and this, as to number, is the result of thirty years' operation of the system. In other respects the results of the system are even less satisfactory. Repeated applications have been made for the institution of judicial proceedings to set aside patents already issued, either on the ground of fraud in original titles or of a fraudulent enlargement of boundaries. A suit is now pending for the recovery to the United States of nearly 2,000,000 acres embraced in a single confirmation by Congress upon a surveyor general's report. This situation illustrates a more fundamental defect in the present system than that of mere interminable delay. It is that the machinery employed does not admit either of that scrutiny of title or of that accuracy in the determination of boundaries which the public safety demands. The surveyor general is fully occupied with the ordinary duties of his office. He cannot give the time required for a thorough investigation of these cases, even if he were always qualified for the duty and interests of such magnitude could properly be confided to the intelligence, discretion, or integrity of a single individual.

The determination of the boundaries and extent of claims rests almost wholly with deputy surveyors. They are only nominally officers of the United States. Actually, they are contractors. They are not required to exercise judicial functions, and cannot be expected to devote much of their own time to a critical investigation of boundaries shown them by interested claimants. For several years past, and until the beginning of the present fiscal year, after a claim had been favorably reported by the surveyor general, the first step was to make what is called a "preliminary survey." This was not considered a finality. It did not purport to be founded upon any accurate basis. It purported only to describe boundaries which parties interested in extending claimed limits had pointed out. When a claim is confirmed by Congress the confirmation may carry the survey as reported, and thus the merely preliminary survey becomes a Congressional grant.

These preliminary surveys were not required to be examined by this office, but in contemplation of law were simply transmitted to Congress as exhibits to the surveyor general's reports. But if they had been examined here, such examination would, of necessity, have been a superficial one. Under the present system this office is without proper means to judge of the substantial correctness of surveys of private land claims. Minor errors, incident to any survey, may be detected. But whether the deputy surveyor found the true boundaries of the grant, or whether the monuments accepted as being the monuments called for by the grant were such in fact, are matters wholly beyond the facilities of this department to ascertain from any data furnished by the surveyor general's report.

The unauthoritative character of preliminary surveys has repeatedly been stated to Congress in my annual reports and in reports upon special cases.

An instance has been called to my attention where the original claim was for a quantity of land shown upon a plat presented to the surveyor general as containing one square league, or less than 5,000 acres, and described as having fixed natural boundaries, which claimants stated were well known and easily identified. And yet, upon the assignment of this claim to other parties, a preliminary survey was obtained, purporting to show identically the same boundaries, but embracing an area exceeding 300,000 acres.

The title papers transmitted to Congress for its judgment upon the validity of claims are not the originals or purported originals on file in the surveyor general's office, but are copies merely. It is manifestly impossible for an opinion to be formed upon the authenticity of papers by an inspection of copies. Moreover, the organization and duties of legislative committees do not admit of that kind of scrutiny and investigation which claims of this character should receive before a confirmation of title to unknown quantities of land is made.

The reluctance of Congress to continue the confirmation of private land claims in New Mexico and Arizona, in view of the difficulties and uncertainties involved in such procedure, has been marked by its omission in late years to take action upon such claims and by various propositions looking to some different mode of settlement.

I have heretofore been disposed to regard with favor the proposition of sending these claims to the courts, but upon a more mature consideration I am satisfied that the courts, with their present organization, would be unable to cope with the vast volume of additional business which would be thrown upon already overcrowded dockets. It is also doubtful if methods of judicial procedure are adequate to the proper investigation of such claims. The evidence to be produced is generally

ex parte. Conflicting interests are apt to be removed, or a confirmation effected, through which the demands of all parties are satisfied out of a larger portion of the public domain. Settlers having adverse claims are not usually able to pay the expenses of a legal contest with wealthy grant claimants. The United States attorneys are occupied with their general duties, and provision is not made by which they can be compensated for the special and extraordinary labor that would be entailed by the proper defense of the public interests in such suits. The appropriations for special counsel do not permit the payment of fees approximate to those which experienced and able lawyers can obtain from private claimants of great bodies of the public lands.

The examination of these claimed titles is a work of protracted and patient labor, requiring in many cases detective experience and skill, as well as legal acumen and learning, and in all cases close and painstaking individual effort. The nature and validity of claims being settled, questions of boundary and extent are to be determined, and such properly require investigations in the field. Usually testimony upon these points is furnished chiefly or wholly by claimants. It is obvious that a better knowledge of facts than can be obtained from such sources is essential to a just adjudication.

The old population of New Mexico and Arizona is permanent in its character. The lands occupied and cultivated by these people for generations are well known. The location of original claims in their neighborhood is ascertainable. I believe it possible, through a personal examination of monuments and boundaries by responsible officers of the Government, and by taking testimony in the neighborhood, to establish the limits of grants with a greater degree of accuracy than has yet been attained or that can be attained in any other manner.

My best conclusion is that a commission should be appointed for each of the Territories named, the duties of which should embrace a thorough examination and investigation of the foundations of all alleged private land claims in these Territories, together with an actual investigation of boundaries and limits, and that all claims before Congress or this office, as well as those depending before the surveyors general, should be remanded to such commission for examination and decision, with proper appeal for review upon error of law.

Much care would be requisite in framing such measure, which should not, I think, invest the commissioners with so great or irresponsible powers of confirmation as given to previous boards, but should require as preliminary to any result most thorough research and exhaustive practical investigation.

The obligations of treaty stipulations are apt to be magnified into a recognition of property rights that had no existence under Spanish or Mexican law, and into the support of speculative schemes to dispossess the United States of its own property. The time has come when, in my opinion, the rights and interests of the United States should be faithfully and vigorously defended against unjustifiable assaults under cover of pretended foreign titles.

I further deem it a matter of great importance that the time within which claims not heretofore presented to surveyors general may be filed before any tribunal should be limited to a brief period, and that all claims not presented within such period should be definitely barred.

In view of the great length of time that has already been allowed for this purpose, I think that further time should be limited to two years.

The necessity of adopting some measure for the speedy settlement of those claims grows more pressing with the advance of time, and every year's delay imposes new difficulties and adds to the risk of confirming unfounded claims and of the progressive enlargement of original claims.

It is still my opinion that these claims can be settled more promptly and satisfactorily by a commission than through the courts, and I respectfully renew my recommendation that such commission be authorized.

SURVEYS.

The area of United States surveys during the year is as follows:

	Area.
Surveys of public lands	51,911,094.00
Surveys of Indian lands	660,770.00
Surveys of private land claims	224,156.13
Total	52,796,920.13

Two thousand five hundred and thirty-nine township plats and field notes of surveys of public lands and private land claims were examined and two hundred and fifty surveying contracts entered into by surveyors general were examined and approved.

BOUNDARY BETWEEN COLORADO AND UTAH.

Frequent complaints have reached this office from the Office of Indian Affairs and from deputy surveyors and others, stating an inability to find the monuments marking the corners on the boundary line between Colorado and Utah. The public land surveys in both Colorado and Utah, especially the former, are rapidly approaching this boundary line, and its early re-establishment is a matter of importance. I recommend an adequate appropriation for that purpose.

BOUNDARY BETWEEN DAKOTA AND MONTANA.

The early extension of the public surveys in Dakota and Montana, particularly within the limits of the Northern Pacific Railroad land grant, render the establishment of the boundary between these Territories a necessity, and I recommend an appropriation for the purpose.

YELLOWSTONE PARK.

The outboundaries of the Yellowstone National Park have never been defined on the ground. The extension of the public surveys in Idaho, Montana, and Wyoming necessitates the early marking of such boundaries by permanent and durable monuments, and I recommend the necessary appropriation for that purpose.

SURVEYS IN NEBRASKA.

The public land surveys in Nebraska have been nearly completed in the field, and only a small amount of work remains to be returned to the surveyor general's office.

An increase in the appropriation for clerk hire at this office for the next fiscal year is recommended in order that the entire work may be finished and the office discontinued at or before the close of the year. The estimate is made for completing the office work and arranging and classifying the original surveying archives, preparatory to delivering the same to the State authorities in accordance with the requirements of law.

PUBLIC LAND STRIP.

Exterior surveys of the public land strip west of the Indian Territory have been made, and the district is rapidly filling up with settlers and stockmen, between whom conflicts have occurred for the possession of the country. A considerable portion of the land is reported to have been illegally fenced. I have recommended the attachment of this strip to the adjoining district of Kansas, and it is desirable that early action be taken in order that the lands may be opened to legal entry.

PROTECTION OF PUBLIC SURVEYS.

Attention has heretofore been called to the necessity of providing adequate penalties for the return of false and fraudulent surveys by

deputy surveyors, and of making the willful removal or destruction of monuments or corners of public surveys a penal offense. Measures now before Congress will, if passed, supply this need.

PUBLIC LAND STATISTICS.

A great waste of time and labor annually occurs from the want of proper statistical compendiums available for ready answers to official correspondence relative to amounts of public land disposed of under particular laws, and other matters of statistical inquiry. Indexes of patents issued are also needed to avoid the necessity of unaided researches through voluminous records, and the law requires such indexes, but appropriations to do the work have never been made. Official economy as well as public convenience will be served by an appropriation for these purposes.

STATE AND TERRITORIAL MAPS.

New maps of Kansas, Utah, Wyoming, and Nebraska have been compiled and published. A new map of Oregon is nearly ready for publication. Revised maps of Minnesota, Washington Territory, and the Indian Territory, and a new manuscript map of Dakota are nearly completed.

EXEMPLIFICATION OF RECORDS.

I renew the recommendation previously made whereby money received by this office for preparing certified copies of plats and records shall be deemed specially appropriated for defraying the expense of doing the work, the same to be disbursed by the Treasury Department in the usual manner.

PROTECTION OF THE PUBLIC LANDS.

An average of twenty-six special agents have been employed for the prevention of timber trespass, and twenty-five for the protection of the public lands from fraudulent or illegal entry or appropriation.

Six hundred and twenty-seven cases of timber trespass have been investigated and reported, involving timber products to the estimated value of \$7,289,854.20.

Legal proceedings for recovery of damages have been had or recommended in 352 cases, and propositions of settlement accepted in 63 cases. The amount of money reported to this office as paid on account of judgments and compromises is \$34,148.85. This sum does not include recoveries by judicial proceedings in cases which have not been reported to this office.

Thirty-five hundred and thirty-one alleged fraudulent entries of public lands, embracing an area of 500,000 acres, have been investigated and reported, principally in California, Colorado, Dakota, Minnesota, and New Mexico, and a lesser number in all other public land States and Territories; 680 entries have been canceled on final proceedings, 782 held for cancellation, and hearings have been ordered in 781 cases. About 5,000 entries have been suspended awaiting investigation.

In a special report submitted May 15, 1884, in reply to a resolution of the Senate, I stated as follows:

Beyond cases specifically examined, I have no doubt that much has been done in the way of prevention within the sphere of these operations. But the territory to be

covered is so vast and the proportion of fraudulent entries found to exist is so large that if it be the intention of Congress that the remaining public lands shall be protected from indiscriminate absorption through illegal and fraudulent appropriation, more adequate legislative measures will need to be adopted.

The repeal of the pre-emption and timber-culture laws, which I have heretofore recommended, is one of the first essential steps in this direction. It is not possible, by any administrative action, to close the doors opened to abuses under these laws.

This may equally be said in reference to the timber-land and desert-land laws, and the commutation features of the homestead laws, and also of the provision allowing the filing of soldiers' homestead declarations by attorney, which latter provision is used to defraud both the soldier and the Government.

If all laws for the disposal of public lands, except the homestead law, were repealed, and the latter amended as heretofore suggested, the great bulk of misappropriations would disappear from future entries.

An examination of pending entries alleged and believed to be fraudulent would require a special agent to be constantly on duty in each of the principal land districts, and in some districts one such agent would be unable to cope with the work before him.

If the system of examination in the field is to be effective, provision should be made for not less than one hundred special agents. The compensation of such agents, including guides, surveyors, and assistants, averages about \$3,600 a year each, and additional expenses for the payment of witnesses and the cost of taking testimony on the part of the Government at hearings before local officers, are also necessarily incurred. The total appropriation for the protection of the public lands the next fiscal year should not be less than \$400,000, if efficient measures are desired. An addition of twenty-five clerks, who should be of the higher grades, would also be necessary in this office in directing the operations of special agents and examining and acting upon their reports.

Further legislation is also requisite to authorize registers and receivers to subpoena witnesses and compel their attendance.

No increased appropriation having been made by Congress for the current fiscal year, I was confronted at the outset with the necessity of either withdrawing special agents from investigations in the field or of abandoning or suspending further action upon investigations that had already been had, and as a result of which hearings had been ordered in several hundred cases. It was found impossible to carry on both, as the expenses of each singly would exhaust the appropriation. Hearings could not be had without the presence of special agents, who are material witnesses, and the payment of their expenses would leave no means to defray other costs.

It was therefore determined, as the only available course, to continue in the field such number of special agents as the appropriation permits and to suspend all hearings ordered on their reports. The result is that final action cannot be taken for the cancellation of entries examined and reported fraudulent, until Congress shall make provision for the expenses of formal hearings, or obviate the necessity of them by clearly investing the executive department with power to summarily cancel entries found fraudulent upon special examination.

For a similar reason of the inadequacy of the appropriation to the needs of the service I have been compelled to remove general suspensions of entries in localities in which fraudulent appropriations have been reported as prevalent, and to permit entries to go to patent without the investigation necessary to determine the *bona fide* or fraudulent character of any of them.

It is obvious that some decisive action by Congress is called for by every consideration of public policy and administrative expediency.

If it is the legislative purpose to adhere to the policy of preserving the remaining public lands for actual settlers, and to prevent the acquisition of great bodies of land in fraud of law by single individuals and corporations, American or foreign, sufficient means should be placed at the disposal of the Land Department to prevent the vast and widespread

violations of law which have been brought to the knowledge of this department and the notice of Congress.

I have discharged my own duty in presenting this subject, as I have from time to time in my annual reports and in special reports submitted to Congress, as clearly and forcibly as I could, and I leave to the higher power of that body the responsibility of determining the course to be pursued.

ILLEGAL FENCING OF PUBLIC LANDS.

Thirty-two cases of illegal fencing of public lands have been examined and reported. The area inclosed in these cases aggregates 4,431,980 acres. Twelve cases have been acted upon in this office and suits recommended to compel the removal of the fences. A very large number of complaints remain on the files of this office for want of facilities to investigate them. The majority of such complaints convey no information of the quantity of land inclosed, the amounts being broadly stated as "many thousand acres," "immense tracts," &c. The extent to which public lands are so fenced may be inferred from the large amount found inclosed in the small number of cases examined.

My general information is that fencing operations are largely carried on throughout the region of country between the one hundredth meridian and the settled portions of the Pacific coast, particularly in Montana, Idaho, Wyoming, Nevada, Colorado, New Mexico, Arizona, and portions of Kansas, Nebraska, Dakota, California, Oregon, Washington, and the Indian Territory.

The personal examination of these inclosures by special agents is a matter of slow progress, and involves great expense, as a survey of the lines is necessary in equity proceedings for identification of the inclosed land, and the average monthly expenses of a single agent engaged in such examination with the necessary outfit, surveyors, chainmen, flagmen, teams, &c., amounts to about \$650. I have heretofore recommended the passage of an act which will authorize more summary proceedings than now adopted, and which will place legal remedies in the hands of individual citizens who may be aggrieved. If the bill now before Congress to these ends should become a law, it would, I think, operate as an effective check to the misappropriations complained of.

FUTURE DISPOSALS OF PUBLIC LANDS.

The surveyed public lands of the United States have largely been disposed of, or appropriated by various claims under general laws, or pledged for the satisfaction of educational, internal improvement, or other public grants. The total area surveyed from the commencement is 938,940,125 acres. The estimated area unsurveyed, exclusive of the Territory of Alaska, is 506,495,454 acres. This estimate is of a very general nature and affords no index to the disposable volume of land remaining, nor to the amount available for agricultural purposes. It includes Indian and other public reservations, unsurveyed private land claims, the sixteenth and thirty-sixth sections reserved for common schools, unsurveyed lands embraced in railroad, swamp land, and other grants, and the great mountain areas, and areas of unsurveyed rivers and lakes. Deducting these, and areas wholly unproductive and unavailable for ordinary purposes, and the volume of remaining land shrinks to comparatively small proportions. The time is near at hand when there will be no public land to invite settlements or afford citizens of the country an opportunity to secure cheap homes.

Meanwhile vast stretches of uncultivated land are everywhere observable, claims to which are held or titles to which have been acquired in evasion of restrictions of quantity that may lawfully be appropriated by single individuals, and without compliance with the conditions of settlement, improvement, and cultivation required by law.

In the early history of the country, when the broad expanse of the public domain was unsettled, a liberal system of laws was adopted providing for an easy acquisition of individual titles, and even down to later periods the object apparently sought to be accomplished in the purpose of the laws and the policy of their administration was for the United States to hasten the disposal of its lands. With this purpose in view and abundant areas everywhere open to settlement, no special safeguard against appropriations in fraud of law appears to have been thought of or deemed necessary. On the contrary, the prevailing tendency of legislation has been to remove restrictions rather than to impose them, and acts have been passed primarily for the relief or benefit of actual settlers which have been availed of to the defeat of settlements by the facility afforded for the aggregation of land titles in speculative or monopolistic possession.

The numerous methods of disposal now existing, and the laxity of precautionary provision against misappropriations, are resulting in a waste of the public domain without the compensations attendant upon small ownerships for actual settlement and occupation.

It is my opinion that the time has fully arrived when wastefulness in the disposal of public lands should cease, and that the portion still remaining should be economized for the use of actual settlers only. An act reserving the public lands, except mineral lands and timber reserves, for entry exclusively under the homestead laws, and amending the homestead laws so as to prevent the present easy evasion of wise restrictions and essential requirements, would be a measure meeting this end, and answering a pronounced public demand.

TIMBER LANDS AND FOREST RESERVES.

The necessity of some measure by which natural forests may be preserved at the headwaters of important rivers and their tributaries, and in other situations where such preservation is expedient for climatic effects or other reasons of utility, has been a frequent theme of scientific and general discussion. The importance of the subject cannot, perhaps, be overestimated, and it is apparent to me that if anything is to be done in this direction it should be done quickly. The forest areas of the country are rapidly diminishing, and the timbered lands of the United States will, under existing laws, soon be exhausted. To a great extent such lands are now appropriated by illegal pre-emption and commuted homestead entries, made without settlement except that of lumber camps and without improvement except the cutting and removal of the timber for commercial purposes. The United States receives only the minimum agricultural price of the land, irrespective of its real value, which is usually largely in excess of the Government price.

If timber lands are to be sold I think the United States should receive a price more approximate to the value of the timber than the price of ordinary public land. There appears to me no good reason why lands worth \$25, \$50, \$100 or more per acre for the growing timber upon them should be sold for \$1.25 and \$2.50 per acre. The low price at which such lands are now obtained stimulates fraud in acquiring titles, and holdings for future speculative purposes, while as soon

as reduced to private ownership such lands have their proper market value, and the cost of timber products to consumers is naturally predicated upon that value and not upon the Government price at which the lands were primarily obtained.

It is my opinion that all distinctively timber lands of the United States should be withdrawn from sale or entry under existing laws until an examination and appraisal of them can be made; that examination and appraisal should be authorized through such agencies as Congress may direct; that upon the report of the examiners, and other information, recommendation should be made to Congress for the establishment of permanent timber reserves in localities and situations where such permanent reservations may be deemed desirable, and that provision should be made for the sale from time to time, in moderate quantities at not less than the appraised price, of the remainder, or of such portions as it may be determined can be sold without public detriment. The preliminary step to any plan for the protection of the remaining forests, or for any different method of disposing of timber or of timber lands than now provided for, will be a general reservation as above indicated, and I respectfully recommend the passage of an act making such reservation.

ROCKY MOUNTAIN RESERVE.

The establishment of a permanent forest reservation near the headwaters of the Missouri and Columbia Rivers in Montana Territory, as proposed at the last session of Congress, met my approval, and I recommend favorable action upon the pending measure.

DETAILED REPORT.

For the details of work in the office, and of surveying operations in the surveying districts, reference is made to the accompanying statement by office divisions and reports of the sixteen surveyors-general.

Very respectfully,

N. O. McFARLAND,
Commissioner.

Hon. H. M. TELLER,
Secretary of the Interior.

REPORT OF THE COMMISSIONER OF PENSIONS.

DEPARTMENT OF THE INTERIOR,
PENSION OFFICE,
Washington, D. C., November 10, 1884.

SIR: I have the honor to submit herewith the annual statement showing the operations of this Bureau for the fiscal year ending June 30, 1884.

There were at the close of the year 322,756 pensioners, classified as follows: 218,956 Army invalids; 75,836 Army widows, minor children, and dependent relatives; 2,616 Navy invalids; 1,938 Navy widows, minor children, and dependent relatives; 3,898 survivors of the war of 1812; and 19,512 widows of those who served in that war.

There were added to the roll during the year the names of 34,192 new pensioners, and the names of 1,221 whose pensions had been previously dropped were restored to the roll, making an aggregate of 35,413 pensions added during the year. During the year the names of 16,315 were

dropped from the rolls for various causes, leaving a net increase to the number on the roll of 19,098.

The average annual value of each pension at the close of the year is \$106.75 and the aggregate annual value of all pensions is \$34,456,600.35, an increase over like value for the previous year of \$2,211,407.92.

The amount paid for pensions during the year is \$56,908,597.60, exceeding, as will be observed, the annual value of pensions several millions of dollars, which represents the first payments, generally in new claims, and known as arrears of pensions. The amount paid during the year to 31,207 new pensioners was \$23,413,815.10, and there remained in the hands of the several pension agents 7,203 cases of this class unpaid, in which there was due \$4,949,090.05.

The details of these statements will be found in Table 1.

Table 2 shows the various causes for which the names of 16,315 pensioners were dropped from the rolls, classifying what is termed the widows' roll, showing the number of widows with and those without minor children, the number of minor children who were pensioners in their own right, and the number of dependent mothers and fathers. It also shows the whole number of pensioners on the roll, with a like subdivision of the widows' class.

Table 3 exhibits the amount of appropriation on account of pensions, and the disbursements therefrom. In connection with this table is shown a statement of disbursements during the year of \$57,500.42 for arrears of pensions in such cases where the original pension had been granted prior to January 25, 1879, and the date of commencement of pension was at a date subsequent to discharge or death. The act of the date mentioned provided for arrears to this class, and the disbursements have been kept separate from those of regular pensions.

Of the fund to pay this class there remains a balance of \$649,496.68, which is not, as in case of other balances, covered into the Treasury at the close of the year. The draft upon this sum will be so small in the future that I renew my suggestion of last year, that the regular pension appropriation acts provide for the payment of such cases as may in the future arise, and thus permit the covering into the Treasury of the outstanding balance.

Table 4 shows the number of pensioners on the roll of each agency by the several classes, and compares these items in their aggregate with those of previous years, also the amount paid on account of pensions by each agent during the year.

Table 5 shows the number of original claims of each class filed year by year since 1861, the number allowed, the number of pensioners on the roll at the close of each fiscal year, and the amounts paid for pensions, including costs of disbursements for same periods.

In this statement it is shown that 526,354 claims have been filed on account of disability, and 323,462 on account of death alleged to be due to the service, claims for the latter cause having been filed by widows and dependent relatives. Of the invalid claims 272,624, and the widows and dependent relatives 213,082, or a total of 485,706 claims allowed. Besides a comparatively small number pensioned for disability or death from causes originating in the service prior to March 4, 1861, and those of the Regular Army since 1865, this number represents the pensions granted on account of the war of the rebellion. The acts of 1871 and 1878 provided a pension on account of service during the war of 1812. Since the former date 78,106 claims of this class have been filed, 34,646 by the surviving soldiers and sailors, and 43,460 by the

widows of those who served in that war. Of this number 59,424 have been allowed, 25,658 to the survivors and 33,766 to the widows.

In the aggregate, since 1861, 927,922 claims have been filed, and 545,130 have been allowed. At the rate claims have been filed for the past few years, the close of the year 1886 will undoubtedly show one million claims filed for pensions since 1861. For the corresponding periods shown in this table the number of pensioners on the roll at the close of each year is stated, together with the amount paid for pensions. Since 1861 the total amount so disbursed is \$678,346,834.34.

Table 6 shows the number of each class of claims on the files of the office at the commencement of the year, the number filed during the year, the number admitted and the number rejected for the same period, and the number of each class which were pending and on the rejected files respectively, at the close of the year.

Table 7 shows the operations of the special examination service of the office, which is referred to later on in this report.

Table 8 gives the location and geographical limits of each pension agency, the name of each agent, and the balance of funds remaining in the hands of each agent at the close of the year.

Table 9 shows the different rates of pension paid to Army and Navy invalids, together with the number of pensioners of these classes to each rate.

Table 10 shows the amount paid for pensions on account of service during the war of 1812, since February 14, 1871, when Congress provided pensions for this class.

Table 11 shows the number of late war invalid claims allowed each fiscal year since 1861, classified and arranged so that in each year's allowance it is shown in what years the claims were filed for all the preceding as well as the one in which such allowance was made. It also shows the percentage of claims out of the number filed which have been allowed each year. By subdividing this twenty-four years' period there will be shown an interesting statement of the percentage of claims allowed out of the number filed; that is, of the whole number of Army invalid claims filed from 1861 to 1865, both inclusive, representing the first period (three years of which was while the war of the rebellion was yet in progress), 77.8 per cent. have been allowed; for the next five years, to 1870, 79.9 per cent. have been allowed; the next five years, to 1875, 67.4 per cent. have been allowed; the next five years, to 1880, which terminates the arrears period, 47.8 per cent. have been allowed, and for the next period of four years, to 1884, 10.1 per cent. have been allowed; or of all claims of this class, Army invalids, filed within the arrears period (prior to July 1, 1880), 62.2 per cent. have been allowed, and there are still pending of this class (Army invalids) 95,441, or 21 per cent. of the number filed.

An analysis of Table 11, with a view of showing the fluctuating periods in which claims have been allowed after filing, is herewith submitted. This compares the work of this with former years, from 1872 to 1884, inclusive, showing the per cent. of claims allowed during the same fiscal year in which they were filed, and for the first, second, third, fourth, fifth,

sixth, and seventh year preceding, also for full time (in the aggregate) prior to the seventh year, back to 1861.

Years in which allowed.	Filed in the year in which allowed.	Filed the first year before allowed.	Filed the second year before allowed.	Filed the third year before allowed.	Filed the fourth year before allowed.	Filed the fifth year before allowed.	Filed the sixth year before allowed.	Filed the seventh year before allowed.	Filed the eighth and previous years before allowed and since 1861.
	Pr. cl.	Pr. cl.	Pr. cl.	Pr. cl.	Pr. cl.	Pr. cl.	Pr. cl.	Pr. cl.	Pr. cl.
1884....	3.3	9.5	8.5	0.0	45.2	8.4	3.2	2.6	12.8 in the fifteen years previous to 1874.
1883....	1.8	4.0	4.2	35.6	12.9	3.1	3.1	2.4	12.0 in the fourteen years previous to 1873.
1882....	5	0	43.4	31.5	8.1	4.6	4.0	2.4	10.4 in the thirteen years previous to 1872.
1881....	7	11.2	37.1	11.4	7.5	5.8	3.0	2.3	20.1 in the twelve years previous to 1871.
1880....	2.7	27.6	18.5	10.9	7.7	4.6	3.3	2.6	21.6 in the eleven years previous to 1870.
1879....	10.9	38.3	20.6	8.5	3.8	2.6	1.7	2.1	13.0 in the ten years previous to 1869.
1878....	12.4	30.3	25.2	5.7	3.3	3.4	2.9	1.7	14.7 in the nine years previous to 1868.
1877....	10.9	36.5	16.4	8.3	6.4	3.8	2.0	2.7	12.5 in the eight years previous to 1867.
1876....	12.0	48.1	11.6	6.5	5.3	4.1	3.2	2.3	11.5 in the seven years previous to 1866.
1875....	17.3	34.6	12.4	8.8	6.4	5.0	2.6	1.6	12.9 in the six years previous to 1865.
1874....	14.3	31.9	18.4	7.9	7.9	3.2	3.1	2.6	10.2 in the five years previous to 1864.
1873....	21.2	20.1	16.8	12.7	4.7	3.1	5.6	4.0	5.3 in the four years previous to 1863.
1872....	7.2	32.3	27.2	8.1	3.6	5.7	7.3	3.2	5.0 in the three years previous to 1862.

Table 12 is an analysis of the files made on the last day of the year, showing the number of original claims pending, arranged according to military service; also the number who are and those who are not entitled to arrears of pension, and the several causes of delay, so far as practicable to classify, in their settlement.

The following table summarizes the details set forth in table 12:

Class of claims.	Delay of claimant.	Delay in Adjutant-General's Office.	Delay in Surgeon-General's Office.	Delay of applicants to answer office letters.	Delay in Pension Office.	Total.
Original invalids, with arrears	73,382	1,017	279	2,241	18,522	96,441
Original invalids, without arrears	73,839	1,498	222	1,011	7,714	84,284
Original widows, &c., with arrears	27,613	88	24	111	3,728	31,555
Original widows, &c., without arrears	23,589	761	29	73	3,859	28,310
Total	198,423	2,364	554	3,426	33,823	239,590

It is here shown that 82.8 per cent. of the whole number pending await the action of the claimants or their witnesses upon unanswered calls from this office.

But a little over 1 per cent. await the action of the War Department, the same being as near up to date as practicable.

Of the whole number pending 14 per cent. stand chargeable to delay in this office, 14,719 of which awaited a special examination, 4,872 awaited the action of the board of review, and 622 the action of the medical branch of the office, thus leaving 13,610 claims which awaited the examination of evidence which had been filed.

It is true that of the later filed claims some of the delay might be more apparent than real; i. e., of those entitled to arrears (filed prior to July 1, 1880, four years and more pending) 79+ per cent. await the action of claimants, and 17+ per cent. the action of this office, or 22,250 claims, 12,995 of which awaited a special examination.

Upwards of 50 per cent. of the whole number of claims which have been filed, carrying with them arrears of pension, have been allowed. The claims pending of this class constitute, as has been shown, the class which present the greater difficulties in way of settlement. With the very large percentage of this number which await the action of the claimants, it is evident that they meet with great obstacles in procuring such testimony as shall, under the law, decision of the Secretary of the Interior and Attorney-General, and practice of the office, justify favorable action.

The system of settlement of pension claims which has for so many years obtained and is now in vogue has very properly claimed the serious consideration of Congress for the past two sessions. It has not, thus far, been deemed wise to change the system, imperfect as it may seem in its operations in some cases, and remedial legislation has been proposed, which should take from the claimant some of the burdens which in their operations amount to a practical denial of his claim. On this subject of remedial legislation I shall refer briefly later.

Table 13 contains details which have never before been compiled, and shows the number of Army claims filed on account of disability or death from causes originating in the service since March 4, 1861; the number of claims filed of invalids, widows, minor children, dependent mothers and dependent fathers, respectively, also the number of each which have been allowed.

Table 5 shows similar results in the aggregate, being the compilation of each year's reports; but if the same shall be compared the totals in the latter table it will show the greater number. These differences are as follows:

The number of invalids filed, as shown by the compilation of each year's reports is 517,318, and of the widows, minor children, and dependent relatives, 318,130, while in Table 13 it is stated as 512,315 and 310,205, respectively, a difference of 5,003 invalids, and 7,925 of the widows and dependent roll.

The number of invalid claims allowed (Table 5), deducting 4,148 Navy invalids, is 268,476; and of the widows, minor children, and dependent relatives, deducting 3,378 Navy claims of this class, is 209,704; while in Table 13 it is stated as 258,590 and 200,556, respectively; a difference of 9,886 invalids, and 9,148 of the widows and dependent roll.

These apparent discrepancies may be very generally accounted for as follows: Among all classes of claims filed and allowed, as shown in Table 5, are included those where a claim for pension has been made on account of disability or death from causes originating in service prior to March 4, 1861.

Prior to 1873, a soldier dying and having a claim pending, his widow, if entitled, was granted a pension in her own right, commencing at the date from which the soldier would have been entitled had he survived, thus showing but one claim allowed to two reported filed. If the widow died before completing her claim, the minor children, if any, would receive the pension under like conditions, showing but one allowance to three claims filed. These discrepancies were further increased and complicated by the filing, often, of duplicate claims, and not infrequently by the allowance of two pensions, sometimes covering two periods of time, while in other cases the two pensions would be fraudulently received for same periods. The system of records offered no facilities for the discovery of these errors prior to 1880, at about which time the present system was commenced, by which all of those serving in a particular company in a designated regiment are recorded together. The

number of duplicate claims discovered in the completion of this new record amounted to several thousand.

In the case of a widow or minor children, where one or more were the issue of a prior marriage of the soldier and not in the custody of the widow or guardian of the minors who might be the claimants, such minor children were entitled to a portion of the pension, and claim having been made therefor, involving all the labor as though they were the only claimants, such a claim was counted as one filed. But in Table 13 only one claim is reported if on account of minor children, they being in fact supplemental claims.

Table 5 represents correctly the number of claims filed and allowed as the record of each year was made complete, while table 13 eliminates all duplicates and fractional pensions, and stands as a corrected record of each class enumerated, showing but one claim on account of each individual service.

Of the whole number of claims filed and allowed the relative per cent. of each is shown as follows:

Of the whole numbers filed 62+ per cent. were invalid claims, and of the whole number allowed 56+ per cent. were of this class.

Of the number filed 19+ per cent. were widows, and of the whole number allowed 23+ per cent. were of this class.

Of those filed 7+ per cent. were for minor children, and of those allowed 10+ per cent. were of this class.

Of those filed 8+ per cent. were by dependent mothers and 2+ per cent. by dependent fathers; of those allowed 8+ per cent. were of the former and 1+ per cent. of the latter class.

This shows quite an interesting relation of each class to the whole number filed and the difference in per cent. of the number allowed.

Of the whole number of invalid claims filed 50+ per cent. have been allowed; of the widows, 66+ per cent.; of minor children, 80+ per cent.; of dependent mothers, 55+ per cent.; and of dependent fathers filed, 26+ per cent. have been allowed.

RECOMMENDATIONS AND SUGGESTIONS.

In my last annual report I particularized at some length certain changes in the statutes, which, in my opinion, seemed necessary.

These recommendations received the early attention of the Senate Committee on Pensions, and were given earnest consideration. The result of the committee's deliberations brought forth Senate bill 1241, embracing my recommendations, with some modifications to meet the views of the committee.

This bill was reported to the Senate May 22, 1884, and placed on the Calendar, but the pressure of public business prevented action before the adjournment of Congress.

I cannot do better than to submit a copy of the bill, together with a copy of the committee's report (No. 568), as an appendix to this report.

Bill 5667 "granting pensions to soldiers and sailors of the Mexican war, and for other purposes," passed the House of Representatives March 3, 1884, and was reported to the Senate June 23, 1884, with amendments; also, certain additional amendments applicable to the soldiers and sailors of the late war. This bill is also appended to this report.

Bill 1241 proposes to amend eight sections of Revised Statutes, three acts of Congress passed subsequent to the revision of the statutes, and re-enacts certain provisions of law of the old peace establishment acts,

which were improperly omitted from the Revised Statutes, though recognized by this office as still operative. The remaining portion of the bill relates very generally to new legislation providing for a more satisfactory and convenient method in determining the official responsibility of the several pension agents.

The general features of bill 5067 (so far as it relates to the late war) proposes such legislation as will reach a class of soldiers suffering from disability whose honorable and substantial service appeals to the gratitude of the nation; where the restrictions of the general pension laws, and necessary rules of practice thereunder, practically, in many cases, forbid the consideration of equities involved in their claims, and notwithstanding the evidence may show effective and hazardous service, and a present disabled condition, it is often impossible to connect such disabled condition with the service and line of duty; or, if so connected, to show its continuity over the period which has elapsed by satisfactory or competent testimony. Hence many apparently meritorious cases must be denied.

It should be a well-established rule that a discretion of action ought not to be vested in the head of a bureau when it is practicable to define by legislation the meaning and intent of Congress.

To illustrate in some degree the obstacles which beset a large class of pension claimants, I invite your attention to the following table which shows the condition of the pending invalid files July 1 last.

This table shows the various causes for which pension is claimed, so far as they can be intelligently grouped for general illustration, showing the classes which are the more easily susceptible to proof, compared with diseases and injuries, both separate and combined, which from their character require much testimony, on the one hand, to complete a claim, while, on the other, the complication of diseases suggests an improbability of securing direct and positive testimony covering a period of twenty years and more, in quite a large number of cases.

Class of pending claims.	Disease.	Injury.	Hernia.	Wound.	Injury, hernia, disease.	Hernia and disease.	Wound and injury.	Wound and hernia.	Wound and disease.
Number with arrears	59,596	11,170	5,549	7,901	95	1,673	821	343	2,045
Number without arrears ..	50,961	7,084	2,922	5,806	67	1,481	589	196	2,035
Total	110,557	18,254	8,471	13,707	162	3,154	1,410	539	4,080

Class of pending claims.	Wound, injury, hernia.	Wound, injury, disease.	Injury and hernia.	Injury and disease.	Wound, injury, hernia, disease.	Wound, hernia, disease.	Not counted.	Total.
Number with arrears ..	87	145	548	4,318	4	65	531	61,441
Number without arrears ..	22	134	297	4,407	2	48	673	64,284
Total	109	279	845	8,725	6	113	1,204	125,725

Deducting the cases in which pension is claimed only on account of injury, hernia, or a wound, there are left 138,333 applications in which pension is claimed on account of disease, or for two or more disabilities

in each case, or of the pending invalid claims about 77 per cent. of the whole number.

Of all the pending claims of this selected class 53 per cent. were filed prior to July 1, 1880, and the same have been prosecuted for an average period of about six years.

Of these claims (filed prior to July 1, 1880), those on account of injury, hernia, or wounds, not complicated with these disabilities, cannot be properly compared with those filed since, on account of same disabilities, as they are the residuum of the several thousands originally filed, and more fairly represent a large class wherein much testimony has been presented, and perhaps justify a reasonable opinion, from the testimony furnished, that they possess some elements of merit. On the contrary, whenever claims show want of merit, or offer just and fair inferences that they do not possess the same, such tests as the office can apply are used to bring them to a settlement, and if these inferences are justified by the facts shown in the testimony adduced they are rejected.

I mention these facts so it may the more clearly be understood that, of the great number of claims shown to be pending, particularly those filed prior to July 1, 1880, a large proportion present equities for the consideration of Congress, upon the reasonable presumption they offer as to merit, and that unless legislation applicable to them be considered, the same to specify the classes to be affected, and the character of proof which shall be required as sufficient to entitle to pension, the result will be to practically deny the pension to many thousands of brave and disabled soldiers whose suffering and unfortunate social condition appeal to the gratitude, the sympathy, and merciful consideration of Congress. Perhaps it would be more to the purpose to say that the plea for and in behalf of the veterans was for justice, and justice alone.

In connection with this subject, it will be of interest to show the large mail receipts and disposals of the office during the fiscal year.

Mail received and sent out during the year.

Applications for pension, increase, and bounty land.....	94,982
Pieces of additional evidence	285,717
Applications for transfer and duplicate certificates	2,068
Pension certificates returned from pension agents	7,573
Reports and cases from special examiners	15,416
Daily reports from special examiners	51,858
Reports from pension agents.....	362
Letters from the Departments	16,174
Letters of inquiry.....	323,447
Miscellaneous letters, not included in above.....	266,459
Letters from Senators and Members of Congress	75,286
Dead letters returned by Post-Office Department	34,573
Orders for medical examinations from claimants.....	108,750
Certificates of examination from surgeons.....	130,890
Accounts of examining surgeons	14,143
Reports from Adjutant-General, U. S. A.	145,944
Reports from Surgeon-General, U. S. A.	86,673
Reports on credibility of witnesses.....	116,582
Total receipts.....	1,776,906
Calls made on Adjutant-General, U. S. A.	117,363
Calls made on Surgeon-General, U. S. A.	63,430
Letters sent out, including 1,496 foreign	1,368,011
Total mail sent out.....	1,548,804

The sum of \$427.92 was received and returned to the senders. There was also received 20,447 postage-stamps, which were also returned.

Three hundred and fifty thousand Department postage-stamps were issued during the year for official use.

For convenience of comparison the following table will show the incoming and outgoing mail for each year, commencing with 1878, to wit:

Fiscal years.	Letters received.	Congressional letters received.	Letters sent.
1878	588, 692	9, 211	96, 100
1879	669, 117	16, 133	361, 500
1880	891, 512	35, 488	762, 236
1881	847, 123	36, 813	1, 106, 531
1882	1, 338, 909	66, 021	1, 171, 221
1883	1, 681, 171	70, 285	1, 454, 699
1884	1, 776, 906	75, 286	1, 368, 011

NOTE.—In the "letters sent" the calls made on the Adjutant General and Surgeon General, U. S. A., are not included.

SPECIAL EXAMINATIONS.

The tabulated results relating to this subject will be found in Table 7.

The methods pursued in the special examination of claims, as will be remembered, are a legislative substitute for those which prevailed for many years prior to 1882, and which were of a purely *ex parte* character. At some length in my last annual report I discussed the new as compared with the former system, as at that period we had fairly passed the early experimental stage. The results were shown to be very gratifying; so much so, that doubts, if any, could no longer prevail as to the wisdom of the change.

The cost of sustaining this branch of the service may appear considerable, yet that fact could not be consistently urged as a reason for the curtailment of the same if no other results were obtained than the facilities offered to the thousands of meritorious claimants who are enabled to prosecute to a successful issue their pension claims, which otherwise they would be unable to do.

It cannot fail to be gratifying, however, to show the service as more than self-sustaining, with a balance of \$1,802,102.32 as the net saving for one year. This saving is made up of the amount of pension computed as due in cases investigated which were afterwards rejected; the accrued pension due in cases of those who were receiving pensions which upon investigation were made to terminate; money refunded which had been illegally received by pensioners, &c., from which are deducted the per diem and traveling expenses of the special examiners, showing the balance as net saving, as above stated.

At the commencement of the year 240 special examiners were employed in the field. Their operations had attracted unusual attention, and more than ordinary interest was manifested by the thousands of claimants and their friends. Any considerable degree of failure would have at once provoked adverse criticism, which was fortunately avoided.

Members of Congress and Senators had early taken an active interest in the matter, and by observation at home and at the Capitol made themselves familiar with the character and quality of work performed.

As a substantial commendation on the part of our national legislators an act was passed July 5, 1884, providing for the employment of 150 additional special examiners for one year, at an annual salary of \$1,600 each.

This additional force is set at work as rapidly as they are appointed, after being certified under the usual civil service examination pursuant to law.

It cannot be reasonably expected that this additional force can successfully compete with the more experienced examiners in quantity and quality of work, but the rigid tests given of their capacity for the special work they are charged with offers reasonable assurance of good effective work by them.

During the year the United States, except the Pacific slope, has been divided into twenty districts; at the head of each a supervising special examiner is in charge. The following cities have each been designated as the headquarters of a district, viz, Baltimore, Boston, Chicago, Cleveland, Cincinnati, Columbus, Des Moines, Detroit, Harrisburg, Indianapolis, Knoxville, Louisville, New Orleans, New York, Philadelphia, Pittsburgh, Saint Louis, Saint Paul, Springfield (Ill.), and Syracuse.

The supervising examiner has immediate charge of all the special examiners in his district. All reports and correspondence from the latter are subject to the examination and scrutiny of the former before they are sent to this office. This arrangement appears to me the only practical one to manage so large a force whose operations are so far removed from the office, and it has thus far commended itself in producing more satisfactory results with less labor, less time, and less expense than were secured when the whole force reported direct to this office. So well do the claimants appear to be satisfied with the thorough and impartial manner of inquiries made by the special examiners that the office is often urged by them to subject their claims to this test, especially when they experience much difficulty in procuring the testimony required. It shows conclusively, as has often been predicted, that an honest claimant has no fears of a thorough inquiry, but on the contrary often invites the most thorough investigation into the merit of his case, and will render material assistance in obtaining all of the facts. On the other hand, the claimant who urges an unjust claim, knowing it to be such, naturally fears any sort of inquiry which may be made, yet the impartial manner of the proceedings is such that he will seldom have the assurance to commit himself by refusing, though perhaps reluctantly to afford some assistance.

So general has been the complaint from applicants for pension of inability to ascertain the whereabouts of company officers and comrades, often defeating the allowance of a claim for want of testimony from these witnesses, and the comparatively limited resources of the special examination service to supply this want in this large number of cases of this character, I deemed it necessary to inaugurate some method whereby the post-office addresses of as large a number as possible of the surviving soldiers of the late war be procured and compiled into a permanent record convenient for reference.

With this object in view I met General Robert B. Beath, then commander-in-chief of the Grand Army of the Republic, and with his active and hearty co-operation a plan was adopted of securing from each post of that organization the post-office address of each member throughout the country. Suitably prepared printed slips for name, rank, company, regiment, and post-office address were accordingly sent out, and as early as April last a sufficient number had been completed and received so that their arrangement according to military service could be commenced.

In addition to this the examiners in this office were required to note the names of all witnesses who had been in the service which they met with in the examination of claims, so that from this source alone some 150,000

names were secured. The present commander-in-chief of the Grand Army of the Republic is actively coöperating with us in pressing this great and beneficial work.

It is expected that by January next there will be arranged and ready for immediate reference a record of between 600,000 and 700,000 names

The practical use of this record became immediately apparent as soon as reference could be made to it.

During the first three months, April, May, and June, 1884, while the record was still imperfect, the post-office addresses of 12,438 officers and enlisted men were furnished for use in pending claims in this office, and for the past three months 27,370 names have been furnished.

It is the custom now in all cases referred to a special examiner in the field to furnish him a list of officers and comrades, with post-office address, belonging to the organization of the claimant whose case may be under consideration. This information has proved of material service in the adjudication of claims, both as to expediting the work and the ascertainment of the necessary facts.

Many instances arise which could be cited, if necessary, showing the inability of claimant to procure material testimony for want of knowledge of his comrades' whereabouts, which the information afforded by this record relieves, and often is the means not only of establishing the right to a pension but opening the way to defeat an unjust claim.

MEDICAL DEPARTMENT.

The operations of the medical branch of the office have been quite fully set forth and discussed heretofore, and the remedial legislation recommended has met the approval of Congress.

The substitution, when practicable, of boards of examining surgeons for the action of single surgeons has fully justified the policy which was but partly in operation when I made my last annual report.

At the close of this year there were in operation 335 boards of examining surgeons, each consisting of three members, and 36 boards in process of organization. There were also 935 single examining surgeons, this force distributed according to convenient centers of pension population in 1,270 different localities. Such care has been exercised in the location of examining surgeons that the distance to reach them will average from 10 to 20 miles, and in a large majority of cases they are accessible by railroad.

The aggregate membership of this field force of surgeons is 1,940, and the total number of medical examinations made during the year was 130,890.

This force, as well as the examination as soon as received of all medical certificates received from them, is under immediate supervision of the medical referee of the office, who is aided by an assistant medical referee, skilled physicians and surgeons, designated as medical reviewers, and the necessary complement of clerks. This office medical board is also charged with the various medical questions which necessarily relate to all pension claims.

The difficulties growing out of the increase of work imposed upon the medical branch from year to year are comparatively small when compared with those in the determination of causes and effect of disease and injuries, which year after year grow more complicated and obscure.

The want of accurate knowledge on the part of a majority of witnesses, the carelessness, oftentimes, of family physicians in stating the medical history of claimants, call for great care, skill, and judgment on the part of the medical reviewers in reaching just conclusions.

The thoroughness of medical examination provided by the system of boards of surgeons now enables the office to reach, as near as may be, the actual condition of a claimant, thus protecting the Government from imposition, and at same time securing justice to the pensioner.

APPEALS.

During the year 1,516 appeals were taken from the action of the office before the Department. Of these 813 were acted upon, leaving 703 undisposed of.

Of those disposed of the action of this office was sustained in 279 and reversed in 89 cases; 375 were reopened for further consideration on motion of the office, and 70 cases by direction of the Department.

THE NEW FORCE OF SPECIAL EXAMINERS.

In the legislative, executive, and judicial appropriations act approved July 7, 1884, it is provided as follows:

For an additional force of one hundred and fifty special examiners for one year, at a salary of one thousand six hundred dollars each, two hundred and forty thousand dollars; and no person so appointed shall be employed in the State from which he is appointed: *Provided*, That all of said appointments shall be temporary on probation.

For per diem in lieu of subsistence for one hundred and fifty additional special examiners above provided for, while traveling on duty, at a rate to be fixed by the Secretary of the Interior, not exceeding three dollars per day, and for actual necessary expenses for transportation and assistance, two hundred and twenty thousand dollars.

The Civil Service Commission gave proper notice, and there were about four hundred and fifty persons examined in different parts of the country under the Civil Service rules for appointments under the act, who passed satisfactory examination, and which authorized the Commission to put their names upon the list of eligibles. Under this act the President issued the following rule:

In the exercise of the power vested in the President by the Constitution, and by virtue of the 1753d section of the Revised Statutes, and of the Civil Service act approved January 16, 1883, the following special rule for the regulation and improvement of the Executive Civil Service is hereby promulgated:

SPECIAL RULE NO. 3.

Appointments to the 150 places in the Pension Office provided to be filled by the act of July 7, 1884, except so far as they may be filled by promotions, must be separately apportioned by the appointing power in as near conformity to the second section of the act of January 16, 1883, as the need of filling them promptly and the residence and qualifications of the applicants will permit.

Approved July 22, 1884.

CHESTER A. ARTHUR.

Under these examinations and the aforesaid rule of the President there were appointed from the clerical force of the office, by way of promotion, 59 special examiners, who were at once instructed and sent into the field for work. There were also appointed from the various States and Territories 90 special examiners, apportioned as follows: California, 1; Colorado, 3; Georgia, 1; Illinois, 6; Indiana, 7; Iowa, 3; Kansas, 3; Kentucky, 3; Louisiana, 1; Maine, 3; Maryland, 3; Massachusetts, 5; Michigan, 2; Minnesota, 2; Mississippi, 1; Missouri, 2; Nebraska, 1; New Hampshire, 2; New Jersey, 3; New York, 12; North Carolina, 2; Ohio, 5; Oregon, 1; Pennsylvania, 7; Rhode Island, 1; South Carolina, 1; Tennessee, 1; Texas, 1; Vermont, 1; Virginia, 2; Wisconsin, 1; District of Columbia, 2; Arizona, 1.

These officers, as soon as it was practicable, were sent into the field and given cases to examine, without much previous instruction in the office.

Orders were given that, inasmuch as this force was provided for the purpose of bringing up the delayed cases in the Special Examination Division, the whole force of special examiners be confined, as far as possible, upon claims which had been awaiting the action of that division for the longest time, so that on or before the first day of November all claims requiring special examination which had been so referred prior to the first day of July, 1883, should be completed and returned, and that prior to the first day of January, 1885, all claims of a like character referred to that division prior to the first day of January, 1884, should be completed and returned to the office.

It was my intention that all claims on the files of this division prior to the first day of July, 1884, should be thus completed and returned to this office on or before the first day of April next, and that all claims so referred prior to the first day of January, 1885, should be in a like manner completed and investigated on or before the first day of July, 1885. In this way it is hoped that the object for which the additional force for special examinations was provided will have been accomplished.

CLERICAL FORCE.

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In closing this report I desire to say that the clerical force which has been provided, and which has during the past year performed the work of this office, as shown hereinbefore, has no superior and but few equals in the service of the Government for fidelity to their duty and conscientious discharge thereof. In point of industry and amount of work accomplished they can safely challenge comparison with any like force in any Department of the Government.

The utmost order and discipline has prevailed, and the office, with the re-enforcement of additional special examiners, enters upon the new year with renewed zeal, and it may be safely predicted that its accomplishments will not be surpassed by any previous year in the history of the office.

I wish in this public manner to express my appreciation of these services, and the cordial and hearty support given me by the officers and employes of the Bureau, and to thank you for the many acts of kindness and consideration which you have been pleased to show towards the office and myself.

Your most obedient servant,

W. W. DUDLEY,
Commissioner.

Hon. H. M. TELLER,
Secretary of the Interior.

REPORT OF THE COMMISSIONER OF RAILROADS.

DEPARTMENT OF THE INTERIOR,
OFFICE COMMISSIONER OF RAILROADS,
Washington, November 1, 1884.

SIR: In compliance with the statutory requirements of the act of June 19, 1878 (20 Stat., 169), I have the honor to submit the following report in regard to the operations of this Bureau, and of the condition of the property, business, and accounts of the several railroad companies whose geographical location "is in whole, or in part west, north, or south of the Missouri River, and to which the United States have granted any loan or credit or subsidy in bonds or lands."

The property and accounts of the several railroads have been examined, the companies having freely accorded all proper facilities for the inspection of their properties and the examination of their books. Statements are herewith submitted in detail, showing the indebtedness of the subsidized railroads to the United States, earnings and expenses, financial condition, 5 and 25 per centum of net earnings, physical characteristics, and various other data pertaining to these roads. Detailed statements of the sinking funds of the Union and Central Pacific Railroad Companies are also submitted, and show the sums which have been covered into said funds by the Treasurer of the United States, and the amount and character of investments made by the Secretary of the Treasury as custodian.

CONDITION OF TRANSPORTATION ACCOUNTS.

Appendix 7 of this report shows in detail the condition of the transportation accounts of the indebted Pacific Railroads to the Government to be as follows:

Transportation services performed for the United States to December 31, 1883, as shown by companies' books.....	\$30,059,810 56
Less one-half of charges for transportation prior to 1873, paid to the companies.....	\$4,723,188 95
[Act of March 3, 1873, requires all transportation performed for the Government to be withheld. Prior to that time one-half of amount was paid to the subsidized railroads.]	
One-half retained and applied to the credit of the companies, prior to 1873.....	4,204,471 03
Transportation services performed and settled for prior to the act of 1873.....	8,927,659 98
Remainder applicable to "repayment of interest," to the payment of "5 per cent. of net earnings," and to the payment of requirement for United States "sinking fund".....	21,132,150 58

APPLICATION.

Included in this remainder of \$21,132,150.58 is transportation on non-aided lines operated by the subsidy roads, amounting to.....	\$3,737,557 31
To which add one-half of remaining transportation on subsidy portions.....	8,697,296 62
Total to bond and interest account.....	\$12,434,853 93
One-half transportation (\$17,394,593.27) on subsidized portions, to sinking-fund account.....	8,697,296 65
Total.....	21,132,150 58

The total cash payments to December 31, 1883, which have been required from the companies, in addition to the retention of the entire compensation for services, are as follows:

Central Pacific.....	\$1,282,264 44
Central Branch Union Pacific.....	6,926 91
Union Pacific	\$3,452,328 53
Less balance due the Kansas Pacific for excess of transportation over and above the annual requirement for 5 per cent. of its net earnings to December 31, 1881.....	1,005,771 39
	<hr/> 2,446,557 14
Total	<hr/> 3,735,748 49

The Central Pacific Railroad Company has deposited in cash \$1,282,264.44 in the Treasury, in compliance with formal demands from the Department of the Interior, being amounts ascertained by this office to be due the United States under the act of May 7, 1878. In this connection I think it important to bring to your attention the surplus withheld by the Government and due to the Central Pacific Railroad after full payment of the requirement of the act of May 7, 1878, accrued for transportation services over non-aided lines, and amounting, December 31, 1883 (settlements with the bonded roads being made by the calendar year), to \$209,570.22, the status of which is not certain, and it has not been determined whether the same, or any part of it, can be covered into the sinking fund under section 2 of said act, or whether its payment may properly be demanded of the company. (See my letter of March 6, 1884, in response to Senate resolution of February 25, 1884, Ex. Doc. No. 121.)

Of the sum of \$2,446,557.14 found due in cash from the Union Pacific Railway Company, under the act of May 7, 1878, the company has deposited in the Treasury the sum of \$788,173.43, the balance of \$1,658,383.71 not having been paid owing to questions in dispute as to what constitutes "net earnings" under said act. This controversy is of long standing. The correspondence in relation thereto was printed in my report for 1883, pages 31 to 36, inclusive. Upon the recommendation of this office the whole matter has been referred to the Court of Claims for a judicial determination of all questions in dispute, and it is expected that the case will be tried at the December term of the court.

On April 10, 1884, I addressed you a letter stating that the cash payment ascertained to be due from the Union Pacific Railway Company for the year ending December 31, 1883, under the act of May 7, 1878, amounted to \$718,814.60, and suggested that a demand be made upon President Dillon for the payment of this sum. In accordance with my suggestion, a formal demand was made by the Acting Secretary of the Interior, April 14, 1884.

* * * * *

PASSENGER AND FREIGHT MILEAGE AND RATES.

The following table shows the mileage and rate of compensation for the years 1879, 1880, 1881, 1882, and 1883, of twelve of the leading representative roads of the United States.

The low average mileage of the Central Pacific is occasioned by about four-fifths of the passenger traffic being what is known as "ferry pas-

sengers," the haul of which is about 6 miles, thus proportionately reducing the general or average mileage:

Miles traveled per passenger, with average rate per mile.

Names of roads.	1879.		1880.		1881.		1882.		1883.	
	Per	Rate.	Per	Rate.	Per	Rate.	Per	Rate.	Per	Rate.
	pass.		pass.		pass.		pass.		pass.	
	Miles.	Cents.	Miles.	Cents.	Miles.	Cents.	Miles.	Cents.	Miles.	Cents.
Union Pacific.....	484	3.20	193	3.43	166	3.34	161	3.30	131	3.13
Central Pacific	27	2.72	29	3.04	31	3.07	33	2.92	34	2.73
Louisville and Nashville ..	57	3.45	54	3.51	32	3.40	40	2.71	37	2.61
Atchison, Topeka and Santa Fe	140	3.08	140	3.35			149	3.39	134	2.92
Chicago and Northwestern ..	35	2.80	35	2.70	37	2.53	30	2.52	31	2.46
Chicago, Milwaukee and Saint Paul ..	50	2.93	52	2.84	48	2.86	51	2.58	51	
Chicago, Rock Island and Pacific ..	42	2.97	44	2.90	45	2.07	43	2.51	48	2.50
Lake Shore and Michigan Southern ..	50	2.22	53	2.14	54	1.90	55	2.16	55	2.20
New York, Lake Erie and Western ..	35	2.09	33	2.04	33	2.02	33	1.85	30	1.97
New York Central and Hudson River ..	36	2.02	40	1.99	42	1.86	43	1.80	40	1.98
Pennsylvania	26	2.28	26	2.25	25	2.18	23	2.26	22	2.30
Boston and Albany.....	19	2.14	19	2.08	20	1.97	20	1.99	20	2.00

Number of miles per ton of freight, with average rate per ton per mile.

Names of roads.	1879.		1880.		1881.		1882.		1883.	
	Per	Cents.	Per	Cents.	Per	Cents.	Per	Cents.	Per	Cents.
	ton.		ton.		ton.		ton.		ton.	
	Miles.	Rate.	Miles.	Rate.	Miles.	Rate.	Miles.	Rate.	Miles.	Rate.
Union Pacific.....	439	1.89		2.06	379	1.99	349	1.89	250	2.02
Central Pacific	211	2.78	264	2.34	265	2.14	290	1.81	269	1.92
Louisville and Nashville ..	85	1.53	149	1.61	96	1.55	91	1.35	91	1.32
Atchison, Topeka and Santa Fe	242	2.51	280	2.43			257	2.29	297	1.99
Chicago and Northwestern ..	160	1.56	155	1.49	147	1.47	146	1.47	150	1.43
Chicago, Milwaukee and Saint Paul ..	107	1.72	135	1.76	163	1.70	184	1.48	208	1.39
Chicago, Rock Island and Pacific	228	1.43	231	1.21	211	1.22	210	1.28	203	1.17
Lake Shore and Michigan Southern ..	230	.64	222	.75	221	.62	206	.63	199	.73
New York, Lake Erie and Western ..	191	.78	198	.84	179	.81	164	.75	169	.78
New York Central and Hudson River ..	255	.81	240	.87	228	.78	211	.73	202	.91
Pennsylvania	156	.80	150	.88	146	.80	114	.87	114	.68
Boston and Albany.....	110	1.10	113	1.21	110	1.04	110	1.07	110	1.19

I have also continued the table of the earnings, mileage, and rates of compensation for passenger and freight traffic over the Union and Central Pacific roads from the first year of their operation to the latest yearly returns. They show a steady increase in mileage and volume of business and decrease in rates of compensation, except for the year 1883, when the volume of business shows a slight decrease.

* * * * *

CONDITION OF THE BOND AND INTEREST ACCOUNT.

The public debt statement issued by the Treasury Department June 30, 1884, shows the condition of the accounts with the several Pacific railroad companies as to moneys actually covered in to their credit, but takes no account of moneys in the sinking fund held by the Treasurer

of the United States, or of the compensation for services not at that time settled by the accounting officers, as shown by the following:

Name of railway.	Principal outstanding.	Interest accrued and not yet paid by the United States.	Interest paid by the United States.	Interest repaid by companies to credit of bond and interest account.		Balance of interest paid by the United States.
				By transportation services.	By cash payments, 5 per cent. of net earnings.	
Central Pacific	\$25,885,120 00	\$776,553 60	\$24,229,108 87	\$4,784,617 43	\$648,271 96	\$18,796,219 48
Western Pacific	1,970,560 00	59,116 80	1,727,365 74	9,367 00	.....	1,717,998 74
Union Pacific	27,236,512 00	817,095 36	25,774,945 77	10,006,107 79	.....	15,768,837 08
Kansas Pacific	6,303,000 00	189,090 00	6,318,423 09	3,055,291 60	.....	3,263,131 49
Central Branch U. P.	1,600,000 00	48,000 00	1,597,808 26	162,401 27	6,926 91	1,428,480 08
Sioux City & Pacific.	1,628,320 00	48,849 60	1,513,147 09	131,138 32	.....	1,382,008 77
Total	64,623,512 00	1,938,705 36	61,160,798 82	18,148,923 41	655,198 87	42,356,670 54

The "interest accrued and not yet paid by the United States," amounting to \$1,938,705.36, was payable July 1, 1884.

The total indebtedness of the several subsidized Pacific railroads to the United States on June 30, 1884, is as follows:

TOTAL DEBT.	
Union Pacific (including Kansas Pacific):	
Principal	\$33,539,512 00
Accrued interest	33,099,554 22
	<u>\$66,639,066 22</u>
Central Pacific (including Western Pacific):	
Principal	27,855,680 00
Accrued interest	26,792,145 01
	<u>54,647,825 01</u>
Sioux City and Pacific:	
Principal	1,628,320 00
Accrued interest	1,561,996 69
	<u>3,190,316 69</u>
Central Branch Union Pacific:	
Principal	1,600,000 00
Accrued interest	1,645,808 26
	<u>3,245,808 26</u>
Total	<u>127,723,016 18</u>

TOTAL CREDIT.	
Transportation services performed and money paid into the Treasury:	
Union Pacific:	
Transportation services applied to bond and interest account	\$13,061,399 39
Half transportation applied to sinking fund under act of May 7, 1878	2,508,274 94
Cash payment, sinking fund, under act of May 7, 1878	788,173 43
Interest on sinking-fund investments	139,127 97
	<u>\$16,496,975 73</u>
Central Pacific:	
Transportation services applied to bond and interest account	\$4,793,984 43
Cash payment, 5 per cent. net earnings, under acts of 1862 and 1864	648,271 96
Cash payment, sinking fund, under act of May 7, 1878	633,992 48
Half transportation applied to sinking fund under act of May 7, 1878	1,844,423 17
Interest on sinking fund investments	170,107 83
	<u>8,090,779 87</u>

Sioux City and Pacific:

Transportation services applied to bond and interest account.... \$131,138 32

Central Branch Union Pacific:

Transportation services applied to bond and interest account..... 162,401 27

Cash payment, 5 per cent. net earnings, under acts of 1862 and 1864..... 6,926 91

169,328 18

Total 24,888,222 10

Balance in favor of the United States, but not due until maturity of principal, 1895-'99 102,834,794 08

RECAPITULATION.

Due from Union Pacific..... \$50,142,090 49

Due from Central Pacific..... 46,557,045 14

Due from Sioux City and Pacific..... 3,059,178 37

Due from Central Branch Union Pacific..... 3,076,480 08

Total 102,834,794 08

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CONDITION OF SINKING-FUND ACCOUNTS.

The sinking funds of the Union and Central Pacific Companies, held by the Treasurer of the United States under the act of May 7, 1878, amounted, June 30, 1884, to \$6,084,099.82, the Union Pacific having to its credit \$3,435,576.34, and the Central Pacific \$2,648,523.48, the details of which will be found in Appendix 8 of this report.

Investments have been made by the Secretary of the Treasury as follows:

Character of bonds.	Union Pacific.	Central Pacific.	Total.
Funded loan of 1881, 5 per cent.....	\$256,450 00	\$736,700 00	\$993,150 00
Funded loan of July 12, 1882, 3 per cent.....	1,620,000 00	..	1,020,000 00
Funded loan of 1907, 4 per cent.....	32,650 00	199,100 00	231,750 00
Currency sixes.....	361,000 00	444,000 00	805,000 00
Principal.....	2,270,100 00	1,379,800 00	3,649,900 00
Premium paid.....	172,990 43	179,563 73	352,554 16
Total cost.....	2,443,090 43	1,559,363 73	4,002,454 16

The amounts remaining in the United States Treasury *uninvested* June 30, 1884, were as follows:

Credit of the Union Pacific..... \$992,485 91

Credit of the Central Pacific..... 1,089,159 75

Total 2,081,645 66

The last investments for the Union Pacific were made during the month of March, 1884, the sum of \$1,620,000 having been invested in the 3 per cent. funded loan of July 12, 1882, at a premium of \$48,925, or an average of 3.02 per cent. The total investments for this company amount to \$2,270,100, at a premium of \$172,990.42. The interest on the sinking fund investments to June 30, 1884, amounted to \$139,127.97, or \$33,862.45 less than the premium paid. The amount remaining in the Treasury *uninvested* June 30, 1884, was \$992,485.91.

No investments have been made for the Central Pacific since November 27, 1882. The total investments for this company amount to \$1,379,800, at a premium of \$179,563.73. The interest on the sinking-

fund investments to June 30, 1884, amounted to \$170,107.83, or \$9,455.90 less than the premium paid. The amount remaining in the Treasury uninvested June 30, 1883, was \$844,652.13, and June 30, 1884, it had increased to \$1,089,159.75.

Reference to the foregoing table shows that June 30, 1884, the sum of \$2,081,645.66, belonging to the sinking funds of the two companies, remained in the Treasury Department uninvested.

If it be not deemed by Congress expedient to commute the present uncertain mode of payments to one of fixed amounts having the same lien, the discretion of the Secretary of the Treasury as to the investment of the sinking fund which is now confined to 5 per cent. United States bonds should be enlarged, as the interest of the whole investment thus far made has not yet equaled the premiums paid for the bonds.

The total balance claimed by the Government as due in cash from the Union Pacific Railway Company under the act of May 7, 1878, for the period from July 1, 1878, to December 31, 1882, amounted to \$1,727,742.54, but the sum of \$69,358.83 deposited with the assistant treasurer at Boston July 26, 1881, having, by consent of the company, been accepted June 30, 1884, as a payment on account and covered into the sinking fund, this amount is reduced to \$1,658,383.71. If the whole amount claimed by the company on account of the contested items for new construction and new equipment should be deducted, there would still remain an uncontested balance of \$967,466.05, which the company claims is overpaid by the additional allowance it will receive for carrying the mails.

As previously stated, the sum of \$718,814.60, which this office found due from the Union Pacific Railway Company for the year ending December 31, 1883, was covered into the sinking fund June 30, 1884.

FUNDING THE DEBT.

I again invite attention to the inadequacy of the present sinking-fund method of securing payment from the bonded railroads of their large and rapidly increasing indebtedness.

Experience has fully demonstrated that the act of May 7, 1878, for reasons which could not be anticipated when it was passed, has failed to realize the expectations upon which it was based, and it has become increasingly plain that it is inadequate to secure the payment of the debt. In my judgment it is clear that the Government will be best protected by a reasonable extension of time, and by funding the whole remaining debt and interest in obligations of fixed amounts and maturity.

Such extension should be coupled with a provision which shall require the companies to pledge for the payment of each maturing installment all earnings for Government service over all lines, aided and non-aided, owned, leased, or operated by such companies respectively.

Any act of Congress purporting to withhold such earnings over non-aided lines or portions of lines would be clearly unconstitutional, and could be effective only with the consent of the companies.

In my report for last year, page 15, I recommended that Congress consider the practicability of funding the debt, and called attention to the fact that under the decision of the First Comptroller, affirmed and adopted by the Secretary of the Treasury in his circular of June 27, 1883, the Government is liable to pay in cash for all services rendered by the bonded Pacific railroads over any portions of their roads owned, leased, or operated which have not been subsidized in bonds. I added

"it is clear that under this decision, which is in accord with the decision of the Court of Claims (*U. P. R. R., v. U. S.*, 16 Ct. Cls., 353), the companies have a manifest interest in diverting traffic from the subsidized portions of the roads." I also called attention to the detailed statement of the Central Pacific Railroad Company, and to the fact that the earnings on the subsidized proportion of the road diminished in greater proportion during the year 1882 than on the non-aided portion. Comparison of the statement on page 43 of my report for 1883 with that on page 43 of this report, will show the net earnings of 1882 on the aided portion to have been \$3,171,680.95, and for 1883 \$2,646,122.76, a decrease of \$525,558.19, or \$131,389.55 of the proportion of such earnings due the Government.

The Central Pacific system, in connection with the Galveston, Harrisburg and San Antonio system, embraces a line from Ogden, Utah, by way of San Francisco to New Orleans, a distance from Ogden to San Francisco of 895 miles, from San Francisco to El Paso of 1,286 miles and from El Paso, over the Galveston, Harrisburg and San Antonio system to New Orleans of 1,209 miles, a total distance of 3,390 miles, exclusive of 915 miles of auxiliary roads, and 490 miles of steamer lines. Of this total mileage only 860.66 miles are subsidized with bonds and are under the operation of the act of May 7, 1878.

The figures for the year 1883 show still more strikingly the decrease of earnings per mile on the subsidized portion of this system. The comparative statement of earnings and expenses on page 40 of this report shows that while there was an average decrease of earnings per mile on the whole system in 1882 of \$462.35, the decrease on the non-aided portion was only \$227.47 per mile as against \$553.26 on the aided portion. During the year 1883 the average decrease per mile on the whole system was \$183.30, but the earnings on the non-aided portion *increased* \$57.62 per mile, while there was a *decrease* on the aided portion of \$835.63 per mile.

These figures clearly exhibit the grave uncertainties which must be encountered in any plan which makes the payment of this vast debt depend upon a mere percentage of net earnings. This contrasted decrease is doubtless to be largely attributed to the natural diversion of traffic from the subsidized portions of the line, which lie wholly north and east of San Francisco, consequent upon the opening of new and competing lines through a territory whose traffic before the opening of the Southern Pacific and the Atlantic and Pacific roads was necessarily limited to the Central Pacific, but a large part of which is naturally tributary to the newer lines, and which mainly induced their construction.

For all foreign freights the Atlantic sea-ports are the objective point.

	Miles.
From San Francisco to New York, via the Central and Union Pacific.....	3,334
From San Francisco to New York, via Atlantic and Pacific.....	3,458
From Los Angeles to New York, via Atlantic and Pacific	3,176
From San Francisco to New Orleans, via Southern Pacific	2,495
From San Francisco to Galveston, via Southern Pacific.....	2,184
From Los Angeles to New Orleans, via Southern Pacific	2,014

It will thus be seen that the Atlantic and Pacific has opened a very formidable competition to New York from San Francisco and all points to the south of it, and that the Southern Pacific, on its line to New Orleans and Galveston, has opened to the whole of California, even to its northernmost extremity, the shortest present line to the Atlantic ports. The point on the Central Pacific of equal distance between New York and New Orleans, at which, other things being equal, the traffic destined

for foreign exportation would seek the New York or New Orleans terminus, would be about 419 miles east of San Francisco.

The Union Pacific is now subjected to the competition in the territory south of its line, of the Chicago, Burlington and Quincy, and the Denver and Rio Grande roads, which parallel it through its whole length from its eastern terminus to Ogden. It is also threatened with a no less formidable competition in the near future by the construction of a line, through the territory north of it, in the interest of the Chicago and Northwestern, upon a line, partially surveyed beyond the terminus at Valentine, of the Fremont, Elkhorn and Missouri Valley Railroad Company, of which 293 miles west of the Missouri River are already constructed, and which, when completed, will open a line of easy grade and construction again parallel to this road through its entire length.

By reference to the statements on pages 14 and 15 of this report, it will be seen that up to July 1, 1884, the United States has paid \$63,099,504.18 as interest on the subsidy bonds, while the total credits of the several companies on the interest account, as shown by the Treasury statement, were \$18,804,122.28, leaving an unpaid balance of \$44,295,381.90. This, added to the principal sum of the bonds, \$64,623,512, makes \$108,918,893.90. Deduct from this sum \$6,084,099.82, the amount now in the *sinking fund*, and there remains a balance of \$102,834,794.08, the amount of their indebtedness July 1, 1884, none of which is due until the maturity of the bonds.

The annual interest paid by the United States on these bonds is \$3,877,410.72. The total average annual repayment by the companies, thus far, has been \$2,266,624.79, showing an average annual increase of the debt of \$1,610,785.93.

Of the \$2,266,624.79, the average annual payment, \$1,013,016.64 is carried to the sinking fund, and only \$1,253,608.15 is carried to the interest account. The United States, therefore, advances annually for interest an average of \$2,623,802.57 in excess of the annual repayments of interest by the companies.

The first-mortgage bonds of these companies respectively are equal in amount to the subsidy bonds issued by the Government, and mature about the same time. They are secured by the mortgage pledge not only of all the property of the companies respectively, but of their "corporate rights, privileges, and franchise." Foreclosure would pass the title to the purchaser, discharged from the Government lien, and exempt from all legislative interference based upon the existing subsidy debt.

By section 10 of the act of 1864, they have priority of lien over the Government.

By section 8, of the act of May 7, 1878, the sinking fund created by that act "shall be held for the protection, security, and benefit of the lawful and just holders of any mortgage or indebtedness of such companies respectively, lawfully paramount to the rights of the United States."

The continuation of the sinking fund method is therefore to accumulate a fund which, in the possible insolvency of any of these companies, will stand for the benefit of the first-mortgage creditors, and must be paid to them should the foreclosure of the first mortgage for any reason fail to realize the debt thus secured.

The relation of the Government to the debts of these railroads is shown by the following tables:

The first-mortgage debts, at their maturity, assuming that the inter-

est in the mean time will be paid, and all of which has priority over the subsidy lien, will be as follows :

Central Pacific.....	\$27,853,000
Union Pacific.....	27,229,000
Kansas Pacific.....	6,303,000
Sioux City and Pacific.....	1,624,000
Central Branch Union Pacific	1,600,000
	<hr/>
	64,613,000

The subsidy debt to the United States was, on the 30th of June, 1884, \$102,834,794.08, and at the maturity of the subsidy bonds (say 1898) will be about \$128,500,000, allowing to the companies the average of past annual credits, and assuming the average increase to be as in the past about \$1,600,000 per year. In other words, the total indebtedness at maturity will closely approximate \$193,000,000, including both the first mortgage and subsidy debts.

It necessarily follows that if the Government, as a second mortgage creditor, would protect its debt in the event of the foreclosure of the first mortgage, it must bid to an amount sufficient to cover both, or about \$193,000,000, a sum vastly in excess and probably twice as much as the same property would now cost to construct.

Should the property be sold to any purchaser other than the Government for a sum less than enough to cover both these debts, the Government must lose the difference. If sold to the Government it must pay in cash the whole first-mortgage, amounting to about \$64,613,000, and become the owner, contrary to any policy of the Government which has hitherto obtained, and operate them in the face of all the competition of parallel and rival roads which they must necessarily encounter. Nor is there any probability that the Government could reimburse its outlay by any re-sale.

Should the debt be funded as proposed, each semi-annual payment would be so nearly, or possibly quite, paid by the current earnings for Government transportation—if with the consent of the companies the *whole* may be so applied—that the balance, if any, could be easily paid out of the general earnings, and under such circumstances it would be clearly in the interest of the companies to pay.

In my annual report for 1882, I called attention to the unsatisfactory working of the present system. I said, page 15 :

It is manifest that when the bonds mature, at the close of the present century, the present sinking fund will not be sufficient to meet them, and if left to be dealt with then as a mere book account, with the risk of possible diminution of income from the rapidly increasing competition which they must surely encounter, adjustment may then be more difficult and embarrassing than now. * * *

It is respectfully submitted that it is worthy of careful consideration whether it would not be wisest and best for Congress now to commute the present mode of payment into one of fixed amounts not dependent upon the fluctuations of net earnings or the contingencies of competition, which might cause net earnings to disappear.

In my report for 1883, pages 13-16, I again called attention to the subject. Without repeating that discussion, I may quote my opinion as then expressed, that—

At the rate provided for in the Thurman act it would require a century or more to accumulate a fund sufficient to discharge this debt, and with strong probability that by this method it cannot be done. Nor would it be practicable to increase the percentage without manifest detriment, as well to the companies as their patrons. The payment, by whatever mode it be collected, must come from the earnings of the road. If the rates be too high the burden falls with onerous weight upon the business, and would work directly in the interest of non-aided competing lines.

Reflection has strengthened my conviction of the wisdom of the change I have suggested. The results of the past year, and of preceding years, clearly exhibit the grave uncertainties which must be encountered in any system which makes the payment of this vast debt depend upon a mere percentage of net earnings. The question, so far as the duties of this office is concerned, is only that of debtor and creditor; any other considerations belong solely to the discretion of Congress. I am solicitous only to secure for the Government the surest and speediest possible payment. It is a question to be determined only on business principles, and it has seemed to me that any private creditor with a debtor similarly situated would gladly extend the time if thereby additional and valuable security could be obtained. I believe the method proposed would give certainty for uncertainty, and by increasing the security of the Government render the ultimate payment of both the debt and interest entirely certain.

RAILROAD RATES.

The subject of the adjustment of railroad rates was referred to at some length in my reports for 1882 and 1883, and reasons stated why it was expedient that Congress take action looking towards the correction of the many abuses which existed, and the utter inability of the States, owing to their limited jurisdiction, to enact laws which would effectually correct them. In many instances the State railroad commissioners have exercised a healthful and restraining influence on the railroad managements within their respective States, but are powerless to correct abuses which extend beyond their State lines. National legislation is therefore absolutely necessary to cope with this growing evil.

Several measures are now pending in Congress looking to the enactment of a statute which will regulate interstate commerce, but the solution must lie in the just application of the laws of trade and commerce, with such authoritative regulations as will hold abuses in check. Due care should be exercised that no injustice is done the companies and that the rights of the people are fully protected. I therefore repeat my recommendation that a commission be appointed to take into consideration the whole subject, and report to Congress the facts necessary for intelligent and efficient action in the premises.

The following tables will be of interest, showing the comparative speed of some of the principal railway trains in the United States and Great Britain:

Schedule time of regular passenger trains, 1884.

United States of America.	Distance.		Time.		Speed per hour.		Speed per hour.		Time.		Distance.		Great Britain.
	Miles.	A. M.	Miles.	Miles.	A. M.	Miles.	Miles.	A. M.	Miles.				
Pennsylvania Railroad, Jersey City to Germantown Junction.	84.10	1 40	50.46	53.28	1 27	77.25							Great Western Railroad, Paddington to Swindon.
Pennsylvania Railroad, Jersey City to Philadelphia.	89.76	1 52	48.09	62.25	.....	76.25							Great Northern Railroad, Kings Cross to Peterborough.
Pennsylvania Railroad, Philadelphia to Harrisburg.	105	2 40	39.38	51	2 04	103.50							Great Northern Railroad, Grantham to Kings Cross.
Pennsylvania Railroad, Chicago to Allegheny.	467	13 17	35.16	51.66	.....	50.75							Northwestern Railroad, Rugby to Stafford.
Pennsylvania Railroad, Jersey City to Washington, D. C.	228	5 27	41.64	50.40	.....	48							Midland Railroad, Kentstownton to Bedford.
New York Central and Hudson River Railroad, New York to Albany.	142	3 30	40.57	50.11	53	44.25							Northeastern Railroad, York to Darlington.
New York Central and Hudson River Railroad, Albany to Buffalo.	206	7 25	40.18	47.50	1 42	80.25							Northeastern Railroad, York to New Castle.

Schedule time of regular passenger trains, 1884—Continued.

United States of America.	Distance.		Speed per hour.		Time.		Great Britain.
	Miles.	A. M.	Miles.	Miles.	A. M.	Miles.	
Boston and Albany Railroad, Boston to Springfield.	98	2 29	39.47	49.68	.....	73.50	Caledonia Railroad, Carlisle to Carstairs.
Boston and Albany Railroad, Boston to Albany.	201	5 20	31.74	48.83	.....	51.23	Great Eastern Railroad, Bishopsgate to Colchester.
Camden and Atlantic Railroad, Atlantic City to Camden.	58	1 29	39.10	46.64	.....	40	Brighton Railroad, Croydon to Brighton.
Boston and Albany, New York, New Haven and Hartford Railroad, Boston to New York.	234	6 00	39	46.25	.....	74	Chatham Railroad, Harne Hill to Dover.
Shore Line Railroad, Boston to New Haven.	150	4 02	38.68	46.12	.....	46.25	Southwestern Railroad, Basingstoke to Vauxhall.
Lake Shore and Michigan Southern Railroad, Buffalo to Cleveland.	183	4 55	37.22	45	.....	74.50	Southeastern Railroad, Cannon Street to Dover.
Canada Southern Railroad, Windsor to Suspension Bridge.	226	6 10	36.65	48.60	4 15	205.50	Great Northern Railroad, London to Manchester.
Southern Pacific Railroad, San Francisco to Monterey.	125	3 40	34.09	42	4 30	189	London and Northwestern Railroad, London to Manchester.
Chicago, Burlington and Quincy Railroad, Chicago to Galena.	162	5 25	30.10	41.24	4 35	189	Midland Railroad, London to Manchester.

Table showing the speed attained by some fast special trains.

Name of railway.	Terminal points.	Distance.	Time.	Speed per hour.
		Miles.	A. M.	Miles.
Great Western.....	Paddington to Didcot, with four coaches and baggage car, total weight of engine and train about 224,000 pounds.	63.25	47	68
Cincinnati, Hamilton and Dayton	Toledo to Cincinnati	201.20	4 40	43.13
Canada Southern	Greatest speed upon this trip	7.30	06	73
	St. Thomas to Windsor, this was a heavy train, seven sleepers, one dining, and five coaches, baggage, &c.	111	2 38	42.15
Cincinnati Southern	Cincinnati to New Orleans	826	23 20	35.40
Lake Shore and Michigan Southern.	Buffalo to Cleveland, fast mail.....	183	3 47	48.37
Chicago, Burlington and Quincy.	Chicago to Omaha, fast mail.....	492	12	41.83
	<i>Continental express.</i>			
	Jersey City to Pittsburgh	443	10 05	43.93
	Jersey City to San Francisco	3,317	83 27	39.75
	<i>Long runs by one engine.</i>			
London and Northwestern	Crewe to London to Holyhead, and return to Crewe.	528		
Pennsylvania ..	Jersey City to Pittsburgh.....	443		
Central Pacific	Ogden to Benicia.....	800		

UNIFORMITY OF RAILWAY SIGNALS.

In my report for 1883, page 19, I stated that active measures had been taken by the railway managers of the country looking to the early adoption of a uniform system of railway signals. At the general time convention held in Philadelphia, October 9, 1884, a uniform system was almost unanimously adopted, and will, no doubt, be put in operation by a large proportion of the railways.

All measures looking to the protection of life and property in connection with the operating of the railways of the country are to be com-

mended, and it affords me pleasure to call attention to such as have this object in view. The next step in this direction should be the abandonment of the present ill-adjusted and dangerous coupling for freight cars, and the substitution therefor of a uniform system for all the roads. Investigation of this subject will show that a large percentage of the accidents occurring on railways and resulting in injury to persons are attributable to this cause.

* * * * *

The jurisdiction of this office, under the act of June 19, 1878, extends over forty-nine original companies which, by consolidation and leasing, are now represented and operated by twenty-two companies, with an aggregate mileage of 36,735 miles. The supervision and inspection of this vast railroad property and the settlement of accounts, involving many millions of dollars, require the very best expert ability as to accounts, engineering, and railroad experience. It affords me pleasure to commend the general efficiency of the employés of this office, who have made an accurate and comprehensive inspection of the property and accounts as required by law, and who have so ably seconded my efforts in the preparation and completion of this report.

I have the honor to be, very respectfully, your obedient servant,
W. H. ARMSTRONG,
Commissioner.

Hon. H. M. TELLER,
Secretary of the Interior.

REPORT OF THE COMMISSIONER OF INDIAN AFFAIRS.

DEPARTMENT OF THE INTERIOR,
OFFICE OF INDIAN AFFAIRS,
Washington, October 15, 1884.

SIR: I have the honor to submit herewith my fourth annual report, and believe that a careful perusal of it will show that along the pathway of progress in the last twelve months some dark spots have been removed and some bright spots made brighter. More Indians are living in houses and fewer in tepees than there were one year ago. More are cultivating the soil and fewer following the chase than when I made my last annual report. There are more in the carpenter, blacksmith, and other mechanical shops, trying to earn an honest living, and fewer at the war dance, scalp dance, and sun dance than in October, 1883. There are also several hundred more Indian children in industrial, agricultural, and mechanical schools, fitting themselves to become useful, intelligent citizens, than there were twelve months since. During the same period many Indians have with the proceeds of their own labor purchased improved farm machinery and agricultural implements, and are making praiseworthy efforts to take their places among the independent agriculturists of the country. Taken altogether, an impartial view of the situation warrants the belief that some time in the near future it is fair to presume that, with the aid of such industrial, agricultural, and mechanical schools as are now being carried on, the Indian will be able to care for himself, and be no longer a burden but a help to the Government.

EXPENSE OF INDIAN SERVICE.

I am not aware that any report from this office has ever shown just how much the Government contributes from the United States Treasury to feed and clothe the 200,000 Indians who are its wards, outside of the five civilized tribes. The public at large finds from the proceedings of Congress and the public press that \$5,000,000 in round numbers have been appropriated for the Indian service, and this gives to each Indian \$25, which, if true, would not enable any person, either white or Indian, to live very luxuriously, for it is a fraction less than 7 cents a day. But small as this is, it is by no means the worst feature of the case, because after deducting from the \$5,000,000 the money due the Indians, and which the Government only holds in trust for them, and then deducting cost of transportation and other legitimate and necessary expenses, it is found, by a careful examination of the accounts, that the Indians actually get of the money *belonging to the Government*, to feed and clothe them, only about \$7 per annum per capita, or a fraction less than 2 cents a day for each Indian. It takes from the Treasury of the Government \$1,000 a year for each soldier in our Army, whose chief business it is to see that peace is preserved on the frontier, while it takes from the same source for each Indian only \$7. I make this comparison not for the purpose of conveying the idea that the Army appropriation is too much, for I do not *know* that it is, but for the purpose of showing that the Indian appropriation is too small, because I *do know that it is*, if it is expected to transform the Indians from being wild roving nomads into peaceable, industrious, and self-supporting citizens in any reasonable time.

Among the items for which more liberal appropriations should be made, are pay of police, pay of additional farmers, and pay of the officers who compose the courts of Indian offenses. I am sustained by the best and highest authority in saying that "there is that scattereth and yet increaseth, and there is that withholdeth more than is meet, but it tendeth to poverty." More liberality in paying Indian agents, and assisting such Indians as need it and show a disposition to help themselves would be true economy, and hasten the day when the Indians would need no pecuniary aid from the Government.

DELIVERY OF GOODS AND SUPPLIES.

One great cause of embarrassment in the management of the affairs of this Bureau is the failure to make the appropriations for the Indian service in time, so that deliveries may be made at the distant agencies within the year for which the appropriations are made, and as a consequence the Indians are as completely deprived of any benefit for that year as though none had been made. In this connection I call attention to the fact that after the appropriation bill passes much time is necessarily consumed before contracts can be let, and after contracts are awarded from fifteen to thirty days' time is consumed before bonds and contracts can be executed and approved. In addition to this many of the goods purchased, such as clothing, hardware, wagons, &c., have to be manufactured after contracts are awarded and bonds approved. It is therefore very evident that unless the Indian appropriation bill passes early in the session, many of the goods and supplies for the extreme northwestern agencies cannot possibly reach their destination within the year for which they are purchased.

The newspapers of the country have been full of complaints for months past, because certain Indians at the extreme northern agencies were

suffering for food, and by inference the cause of this suffering was attributable to neglect on the part of this office; while on the contrary, the suffering of these Indians for lack of food, was attributable *directly* and *entirely* first, to the fact that the appropriations for them were not made until three months after they should have been made, and second, that when made, the amount allowed was less than was asked for by this office, and consequently insufficient for the absolute wants of these Indians. The Blackfeet, Blood and Piegan Indians, and those at Fort Peck and Fort Belknap agencies, were driven to great straits to sustain life during the winter and spring of 1883 and 1884, being compelled to kill many of their horses and young stock cattle for food, and to resort to every possible expedient, such as eating bark, wild roots, &c., and there is little doubt that many deaths amongst them were the direct result of lack of food. Throughout their severest trials, however, I am glad to be able to say that they have been guilty of very few acts of lawlessness or depredation.

It is evident that owing to the entire disappearance of game and the inability of these Indians to support themselves for the present by agriculture, and in the absence of stock herds old enough and large enough so that the increase might afford a permanent, even if very limited, supply, they will be compelled to depend nearly altogether on the Government for food for several years to come. These Indians, notwithstanding their late sad experience, are cheerfully endeavoring to make the best of their present opportunities, and are anxious to help themselves. Much has been done by them during the past year in digging irrigating ditches, fencing and breaking fields, building dwelling houses, &c., and they are, with few exceptions, diligently and patiently struggling for independence; and there is good reason to hope that with proper assistance, in a few years each household will own a team and have enough land under cultivation, which, with a few stock-cattle, will be sufficient to make a great majority of them nearly independent. In view of all these circumstances, I believe that there has never been a time in the history of these tribes when judicious assistance and encouragement from the Government would have been so beneficial to them as at present.

I have called attention to these things before, and now do so again, with the hope that Congress may see the necessity of making appropriations for the Indian service as to *time* and *quantity* so as to prevent, in the future, all just complaints of this character.

MANNER OF MAKING APPROPRIATIONS.

In my last annual report I called attention to this matter in the following language:

“Under the present system of making appropriations for the Indian service, and the rulings of the accounting officers of the Treasury in the settlement of accounts, this office is very much embarrassed, and large loss of funds is occasioned. Money that might be very advantageously used if the Department had any power to exercise its discretion in the matter, now goes back into the Treasury every year to the amount of hundreds of thousands of dollars, because some change or circumstance occurs that could not possibly have been foreseen at the time the appropriation was made. If the appropriations were made more in bulk, or so as to allow the Department to use its discretion in their expenditure, so that any part of an appropriation not needed for the object or purpose for which it was made, or that could be spared therefrom, could be used

for some other object or purpose in the Indian service, it would aid very materially the smooth and successful operations of this office; provided always, however, that no treaty stipulations should in any manner be interfered with. No one, however well posted in the affairs of the Indian Office, can by any possibility know exactly what will be needed at every point for one year in advance, and as a matter of course members of Congress cannot be better posted in these matters than those whose business it is to watch every part of it for three hundred and sixty-five days in the year. If Congress will fix the amount to be expended for the Indian service, and leave the Department to distribute it as the wants of the service seem to require, I am confident it would be a great improvement on the present manner of doing business. Under the present system some non-treaty tribes of Indians receive 3 pounds gross of beef per capita each day, and some 2 ounces per capita each day. If the plan I suggest were adopted this disproportion could be remedied, while it cannot be remedied under the present system.

“If the manner of making the appropriations for the Indian service be contrasted with that of the War Department, it will add strength to the suggestions which I have made. The appropriations for the War Department for the year 1883, amounting in round numbers to \$25,000,000, were made under less than sixty different heads, leaving, very properly, as I believe, a large discretion with the Secretary of War as to their disposal. The appropriation for the Indian service of about one-fourth that amount is cut up into about two hundred and sixty separate and distinct appropriations, each one of which must be used as specially provided, and for no other purpose, although it may happen that in one place there is an abundance, while in another want and famine may prevail. In other words, the whole War Department, with all its Bureaus, has only about sixty different appropriations, while the Indian Bureau alone has its appropriations under two hundred and sixty different heads. I have thought it my duty to call attention to this in order that the much-needed change may be made in the manner of making appropriations for the Indian service.”

Congress at the last session, in the direction of this line of policy, provided in the Indian appropriation bill that “Government property now on hand,” not required at the reservation where it is, might be used for the benefit of other reservations. This, it will be observed, only provides for the property which was on hand at the date of the passage of the act, to wit, on the 4th of July, 1884, but does not authorize any apportionment or distribution of goods or supplies purchased after that date. This does not meet the necessities of the case to which I referred, and I now again invite attention to this matter and urge the importance of such legislation as will allow of the distribution of goods and supplies of all kinds to non-treaty tribes of Indians in such manner as to kind and quantity as in the opinion of the Department may be calculated to promote the best interests of the service; and I do not hesitate to assert that the same amount of money disposed of in this manner will do much more good and give more general satisfaction than it does on the present plan.

SALE OF ARMS AND AMMUNITION, AND LIQUOR TO INDIANS.

I again call attention to the fact that no law exists to prevent the sale of arms and ammunition to Indians. This office can and does prevent persons licensed and under bonds as Indian traders from furnishing either arms or ammunition to Indians; but outside parties furnish

both arms and ammunition, because there is no law to punish them for so doing. This practice places the Indians in a semi-independent position to the Government, which has been productive of much trouble, and, in some instances, loss of life. I hope, therefore, that Congress may see the necessity of passing a stringent *prohibitory law* on this subject, so that the *personal liberty* of both whites and Indians may be interfered with in this particular.

Congress, at the last session, so far responded to my repeated requests for funds to be used in the prosecution of persons who furnish intoxicating liquor to Indians as to make an appropriation of \$5,000 for that purpose. This is one step in the right direction, and the first one that has been taken upon this particular subject, and it has already produced good results, one of which is that some of the violators of law are now in prison. But this is but a step in the commencement of what should be followed by legislation to make it thoroughly effective. After the offender has been arrested, tried, and found guilty, the punishment under the law as it now stands may be, and in many instances is, so light as to be no terror to the evil doer. When from \$100 to \$500 have been expended in prosecuting a case to conviction of the offender and then have him fined \$1 and imprisoned one day, as has been the case in some instances, it is very obvious that this worst of all evils in the Indian country will not be removed, and is so broad a farce as to be justly ridiculed and despised. The only effectual remedy for this is the one which I have repeatedly recommended, and that is to make the penalty *not less* than \$300 fine, and *not less* than two years' imprisonment. The law now reads *not more* than \$300, and *not more* than two years' imprisonment.

The Indians themselves complain of the Government's allowing white men to furnish liquor to their people, and in some cases do all in their power to cure this evil by severely punishing their own people who indulge in the use of intoxicating liquors. What must an Indian think of a Government claiming to be governed by the principles of Christianity, and urging them to abandon their heathenish practices and adopt the white man's ways, which at the same time allows the meanest and vilest creatures in the persons of white men to demoralize and debauch their young men by furnishing them with that which brutalizes and destroys them? What is wanted now is a penalty attached to the law for its violation commensurate with the crime, and I earnestly request that Congress at its next session will, in addition to the good work which it has begun by appropriating money for the prosecution of those who furnish liquor to Indians, also make the penalty for the violation of the law so severe as to make it dangerous for any one to violate it.

REMOVALS OF INDIANS.

Crows.—Since my last report was made, the Crow Indians, whose reservation in Montana is estimated to contain 4,713,000 acres, have been removed from their old location in the western part of the reservation to the valleys of the Big Horn and the Little Big Horn Rivers. Much difficulty was experienced in making this removal, from the fact that Congress only appropriated \$10,000 for this purpose, while the bids received after advertising twice according to law, for the construction of the agency buildings, ranged from \$43,000 to \$70,000. After trying in vain for months to secure the construction of the necessary buildings by this means, it was decided to send a special agent on to the ground selected for the future home of these Indians, and to construct out of the

timber growing there the buildings required. The work intrusted to this agent, I am glad to say, has apparently been satisfactorily done, and as a consequence we have to-day not only the required agency buildings, for which contractors asked from \$43,000 to \$70,000, but have also in addition 52 log cabins for Indian dwellings.

During the last year 300 acres of land have been broken for cultivation at the new agency, about 100 homesteads taken, and more land cultivated by the Indians than in any previous year of their history. In addition to this a large number of stock cattle have been purchased for them, thus placing them a long way in advance of the position occupied by them one year ago. All this has been done without creating a deficiency in any branch of the appropriation, and without the violation of any law or regulation of the Department, and thus a long step taken in the direction of transforming the "wild Crows of the mountains" into a peaceable and self-supporting people.

Not only has this been done, but it has thus been made possible to add to the public domain at least 3,000,000 acres of this reservation, leaving still all the land necessary for the use and occupancy of this tribe of Indians. If this 3,000,000 acres are so disposed of as to give the Crows some benefit of the proceeds thereof, they will no longer require any aid from the Government, and thus one fraction of the Indian problem will have been solved, and an example and incentive given to other tribes of Indians to do likewise.

Tonkawas.—A small tribe of Tonkawa Indians has for many years been living in the State of Texas without any reservation or right to any particular location. Congress for several years has made a small appropriation for their relief, and in the absence of any authority to appoint, or funds to pay an agent, an officer of the Army has been detailed to look after their interests. The condition of these Indians has not improved, but, on the contrary, has become worse each year. At the last session of Congress an appropriation of \$10,000 was made for the "support, civilization, and instruction of the Tonkawa Indians, and for their removal to a reservation in the Indian Territory." Arrangements have now been made for removing these Indians from Texas to the Iowa reservation in the Indian Territory, where by treaty stipulations the Government has the right to place other Indians than the Iowas. This will place these Indians under a regular agent, and on land where they can legally remain, with an opportunity to make homes for their families, and engage in agricultural pursuits, and a chance to avail themselves of the advantages of the Government schools in that region.

* * * * *

INDIAN HOMESTEAD ENTRIES.

The Indian appropriation act for the current year contains a clause allowing Indians to avail themselves of the homestead laws without the payment of fees and commissions on account of entries or proofs, and appropriates the sum of \$1,000 to aid Indians in making selections of land and the necessary proofs. Under this act several entries have been made by Indians in Washington Territory who for years have been in possession of land along the Columbia River. It is believed that this provision, and your action in directing local officers to refuse entries of whites upon lands occupied by Indians, as embodied in circular of the General Land Office dated May 31, 1884, will enable many Indians to secure titles to their lands.

This clause also provides that all patents for lands under the Indian *homestead act* shall be of the legal effect and declare that the United

States does and will hold the land thus entered for the period of twenty-five years in trust for the sole use and benefit of the Indian by whom such entry shall have been made, or in case of his decease, of his widow and heirs, according to the laws of the State or Territory where such land is located; and that at the expiration of said period the United States will convey the same by patent to said Indian, or his widow and heirs as aforesaid, in fee, discharged of said trust and free of all charge or incumbrance whatsoever.

ALLOTMENT OF LANDS IN SEVERALTY AND PATENTS.

During the year 12 certificates of allotments have been issued to the Indians on the White Earth Reservation, under the treaty with the Chippewas of the Mississippi concluded March 19, 1867 (16 Stat., 721); 9 to the Pottawatomies of the Indian Territory, under the act of May 23, 1872 (17 Stat., 159), the cost of the land to the United States in the nine Pottawatomie cases having been reimbursed by the allottees; 12 to the Sioux Indians at the Rosebud Agency, under the sixth article of the Sioux treaty concluded April 29, 1868 (15 Stat., 637), and 2 to the Sisseton Indians on Lake Traverse, under the treaty of February 19, 1867 (15 Stat., 505).

Patents have been issued as follows: 78 to the Chippewas of Lake Superior and the Mississippi, on the Lac Court Oreille Reservation, under the provisions of the third article of the treaty of September 30, 1854 (10 Stat. 1110); and 6 to the Sisseton and Wahpeton bands of Sioux, under the fifth article of the treaty of February 19, 1867 (15 Stat. 505); making the total number of certificates and patents issued 119. Allotments have also been approved by the President in favor of 119 Indians in Washington Territory, and the issuance of patents to 60 of these has been authorized. This office has also approved, in addition to the foregoing, allotments to 102 Indians in Washington Territory, and requested the issuance of patents.

Several of the agents report that their Indians are earnestly asking for allotments, which have hitherto been delayed for the want of an appropriation to survey the reservation.

The bill to increase the quantity of land to be allotted the Nez Percé and Willamette Indians, to which reference was made in my last Annual Report, passed the Senate at the last session of Congress, but no action was taken by the House. The general allotment bill also passed the Senate in a form generally acceptable to this Office, but received no action from the House. It is hoped that favorable action may be taken upon both these bills by the House of Representatives at the next session.

SURVEY OF INDIAN RESERVATIONS.

The first appropriation of any consequence in ten years for the survey of Indian reservations was made at the last session of Congress, when the sum of \$50,000 was appropriated "for survey and subdivision of Indian reservations, and defining by surveys the boundaries of reservations and of lands to be allotted to Indians." The act provides that \$5,000 of this amount, or so much thereof as may be necessary, shall be used for surveying and defining the boundaries of the Navajo Indian Reservation. Although the sum appropriated is but half the amount estimated for, it will do much to relieve the service of one of the most serious embarrassments with which it has had to contend. It will enable this office to rerun and remark the lines of certain reservations which have heretofore been surveyed, and possibly to inaugurate some original surveys, so that the work of allotment will probably be con-

tinned during the year to a greater extent than heretofore. It is the intention to use this money where it is most needed, and rely upon Congress for further appropriations to accomplish the surveys in other places.

The want of a proper definition of reservation boundaries has been, for years, and is still, one of the most fruitful causes of contention and disorder known to the Department, and it is to be hoped that the full amount of my estimate for surveys for the ensuing fiscal year may be provided, in order that existing disputes may be speedily settled, and a subdivision of lands within the reservations made, wherever required and deemed advisable, for the settlement of the Indians in individual homes.

LEASING OF INDIAN LANDS.

Since the date of my last annual report, numerous applications have been received from parties desirous to lease Indian lands, held by ordinary occupancy, by tenancy, or by sufferance, mainly for cattle grazing purposes. To all such, answer, based upon Department ruling on the question in the Fenlon case, April 25, 1883, has been returned that no authority of law existed for the making of such leases or agreements by the Indians or by this Department, and that the Department would not approve them. As a matter of fact, however, some few agreements of the character mentioned have been entered into by certain Indian tribes on their own responsibility, from which the Indians are drawing more or less pecuniary benefit. These agreements, however, have not received the approval of the Department for the reasons above stated. It is very desirable that Congress should put this much vexed question upon a proper basis, so that Indian lands not necessary for other purposes may be made a source of income to the Indians under such rules and regulations as the Secretary of the Interior may prescribe.

CRIMES AND OFFENSES.

A law is badly wanted for the punishment of crimes and offenses amongst Indians themselves. In my last annual report I referred to this subject at considerable length, and pointed out the embarrassment occasioned this Department by reason of the excepting clause in the United States Statutes (section 2146), which remits to tribal usages and customs the punishment of crimes and offenses committed between the Indians themselves. Outside the five civilized tribes in the Indian Territory, who have their own legislatures, courts, and judicial machinery, and amongst whom life and property are as secure as they are in the States, the Indian is not amenable to any law for injuries committed on one of his own race in the Indian country. The result is that the most brutal and unprovoked murders are committed, and the murderer goes "unwhipt of justice."

A notable instance of this is the case of "Crow Dog," who killed the celebrated Chief "Spotted Tail" on the Sioux reservation, and who was tried and convicted before the first district court of Dakota, sitting as a United States court, which held that under the peculiar provisions of the treaty of 1868 and the agreement of 1877, with the Sioux Indians, it had jurisdiction of the offense, notwithstanding the general provision in the statutes. Upon petition for writ of *habeas corpus* and *certiorari*, the United States Supreme Court held that the statutory exception was not repealed by the provisions of the treaties, and that the first district court of Dakota was without jurisdiction to find or try the indictment against the prisoner; that the conviction and sentence were

void, and that his imprisonment was illegal.* The consequence is that Crow Dog is at large upon the reservation unpunished.

Another notable case was that of Johnson Foster, a Creek Indian, who committed a cold-blooded murder upon Robert Poisa, a civilized Arapaho, in the Shawnee country in the Indian Territory. The facts of this case were fully set out in my last report and need not be recapitulated. Here also there was no legal remedy at hand, but the Indians saved the Government all further trouble in the matter by finally shooting the murderer down like a wild beast, not, however, until he had duplicated his crime by murdering the United States deputy marshal who had him in charge.

Still another and more recent case is that of Spotted Tail, junior, and Thunder Hawk, who killed White Thunder (all of them Sioux Indians), at the Rosebud Agency on the Sioux reservation. Under the decision in the Crow Dog case, this office had no alternative but to reluctantly order the prisoners, who, in the first instance, had been placed in the custody of the military, back to the reservation. In regard to this affair the agent reports as follows:

The quietude and monotony of affairs at the agency was broken on the evening of May 29, by the killing of Chief White Thunder by Spotted Tail (son of the late Chief Spotted Tail) and an Indian named Thunder Hawk. My information, obtained principally from Spotted Tail after the fracas, is that White Thunder, feeling aggrieved, went to Spotted Tail's camp, and took therefrom seven horses and other property; Spotted Tail going to his camp and seeing some of his horses dead on the road, he, with two others, Thunder Hawk and Long Pumpkin, went to and commenced firing into the camp of White Thunder's friends, during which White Thunder received two rifle shots, one from Spotted Tail in the leg and another from Thunder Hawk in the breast, from which he soon died. Long Pumpkin was thought to be mortally wounded; he has progressed till the present time with prospects of final recovery. The father of White Thunder was also less seriously wounded, but on account of extreme age may not recover. Six horses were killed in the affray. The next morning Spotted Tail and Thunder Hawk answered my summons and appeared before me for examination. I sent them to Fort Niobrara. They have been kept prisoners at the fort since that time.

If there is no law to punish or detain offenders of such character in durance, they should not be returned to the place of their crimes, where the friends and relatives of the murdered reside, and who stand ready, whenever afflicted with "bad hearts" or are "mourning," to avenge the offense, endangering the lives of many, and good government of all. I look upon this trouble as an outgrowth of the return to this agency of "Crow Dog" (the murderer of Chief Spotted Tail, August, 1881), imprisoned, tried, convicted, and condemned for this crime; afterwards on the decision of the United States Supreme Court, "that the court had no jurisdiction over Indian offenders against Indians," he was released and returned here, feeling of more importance than the highest chief of the nation. His presence from the time of his return has been the cause of jealousy and heartburning; it has at different times appeared as though trouble would result from this cause. "White Thunder" had become one of the progressive men among the Indians; had recently induced a number of his band to leave the vicinity of the agency to form a new camp where good farms could be made, and by his example induced them to go to work. His death will be a loss to his people, as also to the whites, to whom he was a good friend; his influence was on the side of good government, law and order.

Other instances may be cited, but enough have been given to show the necessity for an amendment of the law in this particular. The average Indian may not be ready for the more complex questions of civil law, but he is sufficiently capable to discriminate between right and wrong, and should be taught by the white man's law to respect the persons and property of his race, and that under the same law he himself is entitled to like protection.

In this connection I desire to call your attention to the importance of establishing a United States court in the Indian Territory, in accordance with existing treaties with the civilized tribes, and I cannot better

* Ex-parte Crow Dog 109, U. S. Reports, 556.

do so than by quoting from the annual report of the agent at the Union Agency, to which the civilized tribes are attached. He says:

In criminal cases where white men and Indians are the parties, or where both parties are white men, the case is tried by the United States court at Fort Smith, Ark. About four-fifths of criminal cases tried at that court come from the Indian Territory; the long distances witnesses must travel to reach this court makes the administration of justice not only very expensive to the Government, and to the witnesses who are compelled to attend, but it is the cause of a large number of crimes committed in the Territory not being reported; witnesses cannot afford to travel several times to Fort Smith, Ark., to prosecute criminals. The fees and mileage will not pay ordinary fare and necessary expenses of the trip, allowing nothing for the time lost. The business of the court is transacted as rapidly as possible, but cases are continued from term to term, and several trips must be made by the witnesses before the case is tried. Criminals take advantage of this state of affairs, and crime is much more prevalent than if a court was established in the Territory, as the treaty provides and the Indians desire. The Territory having no friend at court to call attention to these matters, the Indian Office should do so in the interest of good order and economy.

TIMBER AND OTHER DEPREDACTIONS ON INDIAN LANDS.

At the first session of the present Congress a bill (S. 1545) to amend section 5388 of the Revised Statutes in relation to timber depredations so as to apply to all classes of Indian lands, passed the Senate, but was not reached in the House. This legislation is much required, especially in the Indian Territory, where depredations are constant, and I would respectfully recommend that the bill be still further amended, so as to include coal and other minerals upon Indian lands.

INDIAN POLICE.

In the Indian appropriation bill approved May 27, 1878, provision was made for organizing an Indian police force, not exceeding 50 officers and 430 privates. During that year a force was organized at 30 different agencies, and from that day to this the wisdom of Congress in establishing such a force has been more apparent every year. During the past year the force has consisted of 784 officers and privates at 48 out of the 60 different agencies, and it is believed that the records of constabulary organizations throughout the country will not present a more favorable showing for fidelity, faithfulness, and impartial performance of duty than has been displayed by the Indian police. When it is borne in mind that a great majority of the cases upon which they are called to act are offenses committed by their own race against laws made by a race with which they have not heretofore been in sympathy; that they are hedged in by rules and regulations which so abridge the absolute freedom to which they have been accustomed as to gall and chafe them continually, any infringement of which is promptly punished; and that many of the regulations established forbid practices which almost form a part of the very existence of the Indian, practices and customs which are to them a religion, and which, if neglected, they believe will result in disaster and death, the impartiality with which the police have performed the duties devolving upon them is creditable in the highest degree. It matters not who the offender is, whether chief of the tribe or a young warrior, Indian or white man, friend or foe, stranger or one "to the manor born," when ordered to make an arrest there is no flinching from duty, and it is truly marvelous that so little friction has occurred in the performance of their duties. One of the best evidences of their efficiency and adherence to duty is shown in the fact that out of a force of nearly 800 men only 80 have been discharged from the force during the year for all causes combined.

I cannot conscientiously perform my duty nor do justice to this meritorious body of men without again calling attention to their meager salary, and urging that a more liberal compensation be paid to them.

This office requires that they shall be men of unquestioned energy, courage, and self-command; be in vigorous bodily health; be good horsemen and good shots with rifle and pistol. They must be well acquainted with the topography of the reservation, and must so inform themselves as to the appearance of the cattle, wagons, and other property belonging on the reservation as to be able to identify them wherever found; must constantly patrol the districts assigned; must give immediate notice of the arrival of strangers on the reservation; must obtain all possible information in regard to timber, cattle, and horse-thieves, squatters, and liquor-sellers in the vicinity, and must vigilantly watch the movements of all suspicious characters and their associates, and report the same; must report all marriages, deaths, and cases of severe sickness or accident; and must perform all the regular duties assigned, and be ready for special service at any time. They are compelled to furnish and feed their own horses, many of them keeping several, and are often on a trail at hard riding for days at a time, all for the low salary of \$8 per month for officers and \$5 per month for privates. Of the 784 men in service the past year only 64 were single men; all the others had families averaging five members.

During the year 128 resigned on account of "inadequate salary," and it is surprising that any accept or retain the position. Congress, at its last session, recognized the necessity of greater compensation by authorizing one agent to pay \$15 per month. I earnestly recommend that the rate of compensation per month be fixed as follows: Officers, \$15; sergeants, \$12; privates, \$10.

GENERAL STATISTICS.

The following tables show: (1) The distribution of population; (2) the objects and purposes of the expenditures from appropriations for the fiscal years ended June 30, 1882, 1883, and 1884.

TABLE 1.—*Distribution of population.*

States and Territories.	Aggregate number of agencies.	Aggregate Indian population.	Indians not under control of agents.
Arizona.....	8	18,609	2,464
California.....	4	4,738	6,666
Colorado.....	1	991	.....
Dakota.....	9	82,111	400
Idaho.....	8	3,676	600
Indian Territory.....	6	18,334	.....
Indian Territory (five civilized tribes).....	1	64,000	.....
Iowa.....	1	854	.....
Kansas.....	1	976	.....
Maine.....	.....	.....	410
Michigan.....	1	9,577	.....
Minnesota.....	1	5,287	.....
Montana.....	5	*15,333	.....
Nebraska (including 201 attached to Kansas agency, but still living in Nebraska).....	2	8,602	.....
Nevada.....	2	5,016	3,300
New Mexico.....	3	30,003	.....
New York.....	1	5,007	.....
North Carolina.....	1	3,100	.....
Oregon.....	5	4,255	800
Texas.....	(†)	97	290
Utah.....	2	2,309	390
Washington Territory.....	6	10,846	150
Wisconsin.....	2	6,628	1,210
Wyoming.....	1	1,855	.....
Indiana and Florida.....	.....	.....	892
Total.....	61	246,794	17,575

Total number in United States, exclusive of those in Alaska.....264,369

*Of these 558 are in charge of a military officer and not on an Indian reservation.

†Indians in charge of a military officer, and not on a reservation.

TABLE 2.—*Objects and purposes of the expenditures from appropriations for the fiscal years ending June 30, 1882, 1883, and 1884.*

Objects and purposes for which the appropriations have been expended.	1882.	1883.	1884.
Amount appropriated	\$5, 124, 648 80	\$5, 563, 104 18	\$5, 291, 985 91
Pay of Indian agents	84, 552 77	83, 030 09	81, 878 53
Pay of special agents	3, 898 18	7, 290 05	8, 558 46
Pay of interpreters	23, 711 64	18, 306 24	19, 187 62
Buildings at agencies and repairs	36, 000 06	24, 136 18	30, 941 04
Vaccination of Indians	1, 430 35	740 75	246 00
Medicines and medical supplies	15, 749 99	15, 886 86	15, 728 76
Annuity goods	667, 727 02	534, 352 69	371, 073 79
Subsistence supplies	2, 302, 739 13	2, 473, 600 81	2, 160, 967 92
Agricultural and miscellaneous supplies	210, 581 73	272, 959 44	259, 693 51
Expenses of transportation and storage	285, 261 16	323, 966 95	285, 148 76
Purchase and inspection of annuity goods and supplies	25, 265 37	25, 161 12	24, 803 12
Advertising expenses and telegraphing	14, 180 12	14, 174 22	21, 196 88
Payment of annuity in money	285, 819 36	294, 859 98	298, 666 56
Payment of regular employes at agencies	324, 639 52	265, 801 19	254, 853 30
Payment of temporary employes	8, 345 66	7, 320 94	9, 096 48
Support of schools	244, 209 18	482, 336 44	669, 974 21
To promote civilization among Indians generally, including Indian labor	233, 364 48	145, 160 25	92, 130 67
Traveling expenses of Indian agents	12, 947 45	13, 472 49	11, 543 45
Traveling expenses of special agents	2, 790 76	3, 648 42	5, 810 82
Incidental expenses of agencies	6, 231 00	18, 258 77	21, 111 75
Pay of Indian police, scouts, and equipments	75, 975 61	83, 286 08	60, 097 08
Presents to Indians	330 00	60 00	.....
Stock for Indians .....	.....	.....	263, 880 47
Survey of Indian reservations .....	.....	.....	496 50
Pay and expenses of Indian inspectors	19, 963 01	21, 902 94	17, 250 00
Expenses of Indian commissioners .....	.....	4, 625 95	.....
Agricultural improvements	6, 756 31	803 59	7, 581 49
Miscellaneous	4, 650 97	4, 809 80	13, 988 23
In hands of agents	40, 387 74	20, 081 78	746 09
Total amount expended	4, 897, 165 83	5, 196, 218 84	5, 006, 661 49
Balance unexpended	187, 095 23	366, 885 29	285, 324 42

SCHOOLS.

The status of school work among Indians, exclusive of the five civilized tribes, can best be shown by the following comparative statement:

Items.	1883.	1884.	Increase.
Training schools, Carlisle, Forest Grove, &c.	8	6	3
Pupils in training schools	610	1, 195	585
Boarding schools on or near reservations	79	83	4
Pupils in such schools	4, 407	4, 935	528
Children placed in various schools through the country	122	579	457
Day schools	117	126	9
Total number of day pupils	5, 102	5, 022	.....
Total number of boarding pupils	5, 139	6, 709	1, 570

Of the above, 130 boarding pupils and 892 day pupils are in New York; the day pupils attend the 29 public schools which the State of New York provides for her Indian population.

Training schools.—The principal educational advance of the year has been the starting of the three new training-schools referred to in my last report, at Genoa, Nebr., Chilocco, Ind. Ter., and Lawrence, Kans., opened, respectively, in January, February, and September. The reports of the first two are herewith, on pages 207 and 209. The latter is only just under way, and has now 125 out of the 340 pupils which it will accommodate. The Chilocco and Genoa schools have made a good record with their 319 pupils. They have the advantage of both Car-

Carlisle and Forest Grove in possessing sufficient land, and are giving special attention to stock-raising and farming. The Chillico boys have a herd of 425 cattle, and the Genoa boys have cultivated faithfully 202 acres and raised 6,000 bushels of corn, 2,000 bushels of oats, and 1,200 bushels of vegetables. The nearness of the schools to Indian reservations greatly reduces cost of transportation, but at the same time it suggests to the pupils a prompt remedy for homesickness and restiveness under restraint. Both schools have been annoyed by runaways, but it is hoped that serious embarrassment from this quarter need not be anticipated. Several of the employés of these schools are Carlisle and Hampton graduates. If Congress had not modified its appropriation and removed the restriction which limited the amount to be expended in support of these schools to \$200 per pupil, including traveling expenses, they could not have been carried on. To require that the first expense of an industrial school shall not exceed the lowest sum at which it has been found possible to continue a school already established is unjust and unreasonable. For the current fiscal year only \$175 per pupil (exclusive of traveling expenses) is appropriated, and I am at a loss to see how the schools can complete their first full year on this allowance.

The other three training schools, at Carlisle, Forest Grove, and Hampton, have had an uneventful, useful year, with 578, 166, and 132 pupils, respectively, and a combined average attendance of 693. The detailed reports of the schools herewith, on pages 230, 246, and 233, are full of interest, and show clearly the painstaking thoroughness with which the pupils are being trained in the various trades and household industries, and the zeal and faithfulness with which those engaged in it are devoting themselves to this work. Of the special work which is undertaken at Carlisle called "planting out," the superintendent says:

I placed out on farms and in families during the year, for longer or shorter periods—44 girls and 173 boys, and have arranged for keeping out about 110 the ensuing winter to attend the public schools where they are located, or to receive private instruction in the families. This is by far the most important feature of our work.

Eighty-four are reported as excellent workers, 83 as good, 41 as fair, and 9 as lazy. I established a regulation that all who went out from the school should do so entirely at the expense of their patrons, and should receive pay according to their ability. The results have been most satisfactory. The absence from the school has been in nearly every case a clear saving to the Government of their support during such period of absence, and many of the boys and girls, besides supplying themselves with clothing, have earned and saved considerable sums of money, which I find has a most excellent influence.

An Indian boy who has earned and saved \$25 or \$50 is in every way more manly and more to be relied upon than one who has nothing; whereas had he received the same sum as a gratuity the reverse would be the case.

Two years of school training and discipline are necessary to fit a new pupil for this outing. The rapid progress in English speaking, the skill in hand and head work, the independence in thought and action pupils so placed gain, all prove that this method of preparing and dispersing Indian youth is an invaluable means of giving them the courage and capacity for civilized self-support. An Indian boy placed in a family and remote from his home (and it is better distant from the school), surrounded on all sides by hardworking, industrious people, feels at once a stronger desire to do something for himself than he can be made to feel under any collective system, or in the best Indian training-school that can be established. His self-respect asserts itself; he goes to work, behaves himself, and tries in every way to compete with those about him.

Congress having made its annual failure to appropriate funds with which to purchase a farm for this school, Captain Pratt has solicited funds therefor from private parties, and a \$20,000 tract, covering 157 acres, has been purchased, on which \$13,000 has been paid. Another tract of equal size is still needed.

The Forest Grove school has kept its buildings full and this year is crowding in fifty more children in anticipation of being relieved by new buildings, for which Congress appropriated \$20,000. The erection of buildings is delayed pending the settlement of the permanent location of the school.

The superintendent of the Hampton school complains justly of the cutting down of the rate of compensation hitherto allowed that institution from \$167 per pupil to \$158.33, and of a new exaction that he shall pay such part of the transportation of the pupils to and from the school as exceeds a specified sum, which is one-half the amount asked for that purpose. Congress has been accustomed to ask private schools to do work which is worth over \$200 per pupil for \$167, but it has never before reduced the amount below that sum. Considering the superior training and advantages which Hampton offers, and the large private donations which she has secured for the furtherance of Indian education, I cannot consider this discrimination against her as anything but a blunder, and one too serious to be allowed to go uncorrected.

General Armstrong says:

The reduction is arbitrary and uncalled for. It will not seriously hinder the work, for friends will take it up, but it is humiliating to appeal to private charity to make good this small economy of Congress. Hampton school has repeatedly asked for \$175, on the ground of fair treatment and the quality of the work done. This reduction cannot be due to ignorance, but to carelessness or to personal ill-will to the work in which I and my associates are engaged for the Indian race. In behalf of some of the constituents of the very legislators who did this injustice, to whom I have applied to make up this reduction, I protest against the cutting down of the per capita allowance to Hampton school.

Pupils in various schools in States.—Similar to training-school work is the education of pupils in various schools throughout the country, which is assuming noteworthy proportions. Beginning two years ago with provision for 100 pupils, the appropriations have so increased that during the last fiscal year 565 Indian youths were placed in 20 schools located in eleven States, from North Carolina to California. In these schools farming, trades, and household industries are taught, and solicitous care taken of the mental, moral, and physical well-being of the pupils. As stated in my last report, the compensation allowed by the law for such admirable work is only \$167 per pupil per annum. The running expenses of such schools, in addition to the first cost of the outfit in buildings, machinery, tools, &c., is, of course, much greater. The effect has necessarily been to enlist private benevolence and effort quite extensively in this work. Thus Government funds have been supplemented, and new forces have been brought to bear on the uplifting of the Indian. The interest which thus manifests itself in, but cannot be measured by, money donations is sincere, energetic, and practical. A few other pupils have been sent away to school, who have been supported by tribal funds. Seven years ago hardly an Indian child was receiving any other education than that which could be afforded by a reservation school. During last year 1,774 were in the training and other schools above described, and during the coming year the number will undoubtedly reach 2,200. The Albuquerque school might very properly be added to this list, and would raise the number to 2,400. This method of Indian education continued systematically cannot fail to become a powerful factor in Indian civilization.

Reservation schools.—This special training of Indian youths away from their homes does not, however, remove, but rather increases, the need for more vigorous school work on reservations. The mass of the Indians are there, and during this school generation at least will remain

there. Whether ten years from now the same sort of work will be needed depends largely on the schooling given the present generation of children. If the 2,000 youths of the Fort Peck and Blackfeet Agencies continue to be restricted as now to boarding-school accommodations for only 80 pupils, no marked intellectual development need be looked for, and the few children who may be sent away to school from those tribes, will find on their return that the current of ignorance and heathenism setting against them is too strong for their unaided resistance. The statistics of the last year, while far from satisfactory, show progress both in the quantity and quality of school work done on or near reservations.

Boarding schools have been established for the first time among the Yumas, Mescalero Apaches, Pine Ridge Sioux, and the Indians at Fort Berthold. One additional school each has been given the Indians of the Cheyenne and Arapaho, and Warm Springs Agencies, and a new school for the Sioux has been opened at Yankton, Dak. The Yuma, Fort Berthold, and Cheyenne and Arapaho schools are occupying vacated military posts, transferred to the Department for this purpose. Two small boarding schools have closed, and the Round Valley boarding school must be discontinued until the buildings burned during the year can be replaced. A gain of 627 boarding pupils in the various schools is encouraging. Industrial work, especially in trades, still needs more attention. Nineteen of the schools teach carpentering, nine blacksmithing, five shoemaking, and three harness-making. Farming and household industries are added as a matter of course. The schools have cultivated 1,761 acres, and the crops raised consist of 3,730 bushels wheat, 8,280 bushels oats, 14,723 bushels corn, and 26,348 bushels vegetables. They have also made 1,798 tons of hay, and 5,024 pounds of butter.

Of these boarding schools 23, with 1,011 pupils, are supervised and largely assisted in their support by religious societies. The cost of reservation boarding schools to the Government averages \$150 per annum per pupil. This can hardly be considered an extravagant sum to pay for both the support and education of an Indian child, especially when, as in the Sioux tribe, the child's support is guaranteed by treaty. The number of boarding pupils who could be accommodated has been 789 greater than the previous year.

But slight advance has been made in day-school work; although 17 new schools have been opened, others have been discontinued, and 3 have become boarding schools, so that the entire number for the year is only 128, a net gain of 11. Of these, 30 are New York public schools, and 46, with 2,173 pupils, are supported wholly or nearly so by religious societies. The value of day schools among Indians is proven, and for 60,000 Indians their establishment is virtually required by treaty stipulations. The six district schools, among the Pine Ridge Sioux, will be increased to eleven if suitable teachers can be secured. It is no easy matter to find a trustworthy person, having ability as a teacher, who is willing to leave home and friends and settle down in more or less uncomfortable quarters among a heathen people, and for a small salary devote time and energy, not only to teaching children a new language, but also to inspiring and directing the awkward attempts toward civilization of the the entire Indian village in which the school is located. The allurements of a Government salary of \$40 or \$50 per month will not attract to such work those who are suited to it, unless they possess a genuine love for humanity and a desire to labor personally for its elevation. Many such teachers, especially in the mission day schools, are managing Indian schools at

isolated points, and by toil, hardship, and self-denial have become the powerful, though often unrecognized lever which is raising to a higher plane the surrounding Indian community.

The 7,000 Rosebud Sioux have nearly lost faith in the Government promise of a boarding school. The pledge cannot be redeemed until Congress gives funds to cover the expense of relocating and removing the Rosebud Agency, and mean time district day schools are being established as rapidly and systematically as practicable.

During the past year the total accommodations for boarding pupils both on and off reservations, in Government buildings, was 5,461, for day pupils 3,181, making a total of 8,642, or a little over one-sixth of the entire Indian school population. New York provides for 1,286 day pupils, and religious societies furnish accommodations for 1,020 boarding and 1,346 day pupils, and thus the number of pupils who last year had no possibility of schooling was reduced to about three-fourths the whole number. In looking at the educational gain made during the last few years, the proportions of the work undone should not be lost sight of, and appropriations must largely increase before this large unschooled remainder can be cared for.

Some progress is being made toward compulsory education. It has been successfully tried at four agencies, the compulsion at two taking the form of withholding rations, and at the others of withholding annuity payments. As soon as a sufficient number of school buildings are erected in the various agencies for the Sioux, the system can be enforced through that entire tribe under the terms of their treaty.

Buildings.—The embarrassment under which the office has labored for several years—insufficient school buildings—is becoming chronic. If reports gave the number of boarding pupils for which existing buildings furnish *suitable* accommodation, instead of the number which such buildings are compelled to accommodate, a much smaller showing would be made. Inspectors condemn the crowded, stifling dormitories which they find, and agents on the other hand deplore the turning away from school of those who ask for admittance, and they decide to crowd the children temporarily, in the hope that the new building or addition for which they have entreated will soon be allowed. Too often the year goes by without relief and the whole management, even the *morale* of the school, suffers, sometimes seriously. Buildings erected to meet the needs of ten years ago must still be made to suffice, and others too dilapidated and worthless to be repaired must still shelter children who therein are expected to become accustomed to the decencies and comforts of civilization, and to acquire habits of thrift and enterprise.

Since only \$25,000 was appropriated this last year for erection and repair of school-buildings, no extensive work has, of course, been done. The Shoshone, Menomonee, Sisseton, and Siletz buildings, which were commenced in the previous year, have been completed and occupied; also the three new training-school buildings at Lawrence, Chillico, and Geneva; and a building begun some years since at White Earth, Minn. The flourishing Albuquerque school has moved into new quarters after three years of waiting in rented buildings, supplemented by temporary make-shift additions, put up one after the other as the pupils crowded in. This building was intended for 158 pupils, and the superintendent of the school is asking for the immediate erection of another building to house the 50 additional pupils who will ask for admittance this fall, and the 100 others who can easily be obtained. The \$40,000 appropriated this year for buildings will be needed for the

Crow, Devil's Lake, Wichita, Quinaielt, and Fort Peck buildings, and repairs and additions at other points, and Albuquerque must wait another year, as must also nine other places where there are either no buildings at all or else buildings which need immediate enlargement.

There is no obstacle to progress in Indian education with which this office has had to contend so great as the want of money to furnish suitable and even decent school buildings. As stated above, if all the Indian day and boarding school buildings, belonging to Government or other parties, had been filled, only one-fourth of the Indian school population would have been provided for. The suffering at Fort Peck and Black-foot agencies might have been made a golden educational opportunity for those tribes. Hungry children would need little urging to become inmates of boarding schools with well-spread tables. There has been money on hand to buy food for pupils, but none to put up shelters for them, and ignorance and wretchedness must continue unmodified and unrelieved.

To add to its other embarrassments, Congress has still further restricted the office by providing that during this year no Indian boarding-school building shall cost, including furnishing, over \$10,000. The Chilocco buildings, for 150 pupils, cost, exclusive of furnishing, and in a location where materials are easily accessible, over \$20,000, or over \$125 per pupil. A smaller building would somewhat increase the rate per pupil. Three evils are therefore left open to choice: (1) To limit the number of pupils to less than 75; (2) to put up a shabby structure, uncomfortable and inconvenient, and which will require extensive repairing and remodeling in the near future, and yet will never be what it should be; or (3) to erect one small building one year and attach another to it during the succeeding season at some extra cost for changes thereby necessitated. Either method pursued in private business would be considered inexcusably shiftless.

CASH PAYMENTS TO INDIANS.

During the past year the cash payments per capita to Indians, being yearly installments of specific amounts and of interest on the indebtedness of the Government to them under treaty stipulations, &c., amounted in round numbers to \$443,000. A great part of such payments are distributed in small sums semi-annually, each member of a tribe receiving an equal share, so that the whole number of men, women, and children who directly enjoy the benefits of these payments is very large.

All appear to be satisfied that justice has been done to them except the Sacs and Foxes of the Mississippi, who are jointly interested in certain treaties with the Government, but who are divided into two bands, one residing in the Indian Territory and the other in Iowa. The latter band has been dissatisfied for some time back with the respective numbers held by the Government as comprising each band, and upon which numbers is based the division made yearly of their joint treaty funds. This cause of complaint, however, is now in process of removal by steps which are being taken in pursuance of recent legislation, the result of a petition of the chiefs and headmen and the recommendation of the Department, whereby a new and correct census of all the original Sacs and Foxes and their descendants at both places will be taken, and an even per capita share of future payments will be made to each person found entitled without regard to their place of residence.

Notwithstanding the fact that the completion of the census of the

Winnebagoes in Wisconsin required by the act of January 18, 1881, was in charge of a thoroughly competent agent, the work was delayed owing to the difficulties in the way of obtaining the necessary data in reference to them on account of their unsettled habits and homeless condition, and because many of them refused for a long time to give their own names or the names of the members of their families for enrollment, and because it was also found difficult to prevail on many of them to comply with the requirements of the act by taking up homesteads or by declaring their intention to do so as soon as they should receive the money. Therefore it was not until the 20th of October last that the list could be sent to the Department for approval, and steps taken toward applying to the Indians the benefits provided for them by the act. On the 7th of the following November, an installment of one-fifth of the total amount applicable was placed to the credit of a disbursing agent, to be paid to them as the act provided, and those only were allowed to draw who had complied with all its requirements. The wisdom of paying this money in installments, as suggested in my report for 1883, only became more apparent by increased familiarity with the habits and condition of these Indians. Their mere expressed intention to use the money to enter any land they might select or to improve it could not be relied upon as being *bona fide*; but the hope of further payments induced them to make good use of the first, and as it was found that, with few exceptions, the money given them was properly used, another payment of a second one-fifth was made during February, 1884.

As the wording of the act is not plain as to how its benefits were to be applied, it was believed that the remaining three-fifths of the money in question could be expended to their greatest advantage in the purchase of building material, stock, farming utensils, &c., as thus being more certain to permanently aid them towards independence and civilization. But this course on trial was not found practicable, for various reasons, the principal of which was the decided objection of a great majority of the Indians, and the positive refusal of others, to so receive it or to make known their wants, many claiming that they had contracted debts on the strength of their promises to pay from this source, which they felt bound by honor and interest to pay; so that no intelligent estimate for the necessary purchases could be arrived at, nor could the supplies have been properly distributed without the hearty co-operation of the Indians. I was therefore reluctantly compelled to abandon this plan, and since the expiration of the fiscal year a full share in the final three-fifths has been paid in cash to all who presented themselves, properly qualified, as required by the act.

Under what this office has reason to believe to be the evil advice and persuasion of some designing person, who, in connivance with one of the chiefs of the Winnebagoes, wishes to handle their money as attorney (a service entirely unnecessary), a party of these Indians known as Big Hawk's band, and numbering about 95, although duly enrolled and given repeated and timely notice of all the payments, have persistently refused to present themselves to the disbursing agent, properly qualified, as required by the act, for their shares in the appropriation. As the date and place of proposed payment was in every case brought to the notice of all, and every opportunity afforded and much extra effort made and expense incurred in the endeavor to have all avail themselves of the benefits of the act, those who have refused or willfully neglected to so avail themselves are without excuse to claim a further delay of final action under the act, and have no right to put the whole

tribe to the further expense which would be incurred by making a special payment to them whenever they may feel disposed to comply with the law and receive it. I would therefore recommend that the shares of all whom it can be shown willfully neglected or refused to comply with the requirements of the act and to receive said shares, after having had due notice of the dates and places of payment, and ample time and opportunity to make good their claims, be returned to the general funds of the tribe in the United States Treasury, for the benefit of all.

The Department, in approving the census of these Indians taken as required by the act of January 18, 1881, and before any payment was made, authorized the agent, as the work of locating homesteads and making payments progressed, to add to said census list the names of any Winnebagoes who might present themselves properly entitled, as residents of Wisconsin, to enrollment but who had been overlooked in making up the original list, such new enrollments to be sustained with sworn proof of the right of the person to enrollment. The agent was also empowered to strike from said census list the name of any whom he might discover, on further investigation, were not entitled to enrollment, submitting proof to sustain his action in such cases also. Under these circumstances a complete and correct census of all, it is believed, has been obtained, and also of the Winnebagoes residing in Nebraska, and steps will now be taken to carry out the third and fourth sections of the act before referred to, and an equitable adjustment will be made of the amount due to the Wisconsin Winnebagoes from those residing in Nebraska, and future annuity payments will be made to both branches of the tribe accordingly.

The permanent annuity of \$1,100 to the Miamis of Eel River and \$400 to the Pottawatomies of Huron is so small as hardly to warrant the expense connected with making annual payments, and the amounts received by each of the Indians in this way are not sufficient to do them any particular good. I would therefore recommend that an offer be made to these Indians of a sum to be paid each tribe at once in lieu of their annuities.

In making annuity payments two questions often arise which, when not provided for by treaty or special legislation, are difficult to determine by this office with assurance of being right and of having acted for the best interests of the Indians. The first is what degree of white blood should debar a person from sharing in Indian annuities; and the second is whether Indian tribes can drop persons from their rolls whom they have once adopted in good faith and in accordance with the rules of the tribe. It would be well if these questions were definitely and finally settled by legislative action, if possible. I think it would be for the benefit of all to exclude persons of less than one-half Indian blood, and to retain all who are regularly adopted, if Indians, and to add the children of such, but to discourage or prohibit any further adoptions by Indian tribes, especially of whites.

I may be pardoned for repeating my former reference to the difficulties this Department labors under because agents are prohibited by section 3651 of the Revised Statutes from paying some banking institution nearer to the agency than the authorized United States depository, where the funds may be placed to their credit, a reasonable rate of exchange on the agent's official draft for funds to make annuity payments. This is sometimes absolutely necessary, and it is a hardship to the agent to compel him to bear a loss that he cannot in some instances avoid.

I again have the gratification, in reporting on the work of a past year, of being able to point to the fact that, notwithstanding the amount of money handled in making these payments, and the number of agents through whose hands it passed, every cent has been faithfully accounted for.

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SANITARY CONDITION OF THE INDIANS.

The reports of the agency physicians show a total of 73,182 cases treated during the year. Of this number 68,968 recovered, 1,586 died, and 2,628 were still under treatment on June 30. While the number treated is less than last year, the death rate shows a considerable increase, which is doubtless owing largely to the unusually severe winter and the exposure and suffering incident to living in wigwams and poorly constructed houses. One of the causes of a high rate of mortality is the disposition on the part of many of the Indians to rely upon their native medicine men, and to defer applying to the agency physician until disease has made such inroads upon their strength that it is impossible to benefit them by the most skillful treatment. The greatest obstacle with which physicians in the Indian country have to contend is the almost universal belief in spirits prevalent among the Indians. They believe that all diseases are caused by evil spirits, and that the only sure way to cure a malady is to employ a medicine man who possesses a spirit more powerful than the one causing the disease. This belief is fostered and encouraged by the native doctors, who, while they frequently apply to the white physicians for their own ailments, tell their people that though "the white man's drugs may be good for white man, they are poison for Indian." In some of the tribes many of the Indians come to the physician for medicine and then call in their own doctors, believing that the rattling of gourds and bones, beating of drums, and singing by the medicine men are valuable aids to the white man's remedies. Could the belief in sorcery and evil spirits be overcome, a long stride would be made in the work of civilization. No one has greater opportunities in this direction than the agency physician, who, in addition to being skilled in his profession, should be a man with such qualities of head and heart as to win and retain the confidence of the Indians under his care.

Owing to the great aversion of the Indians to the knife as a remedial agent, surgical operations are not of frequent occurrence, and deformities are quite common.

The physicians almost unanimously recommend that suitable hospital buildings be erected at such agencies as now have none. Small hospitals could be erected at slight expense, and would without doubt be a great protection to the agency schools, and would tend to prevent the spread of contagious and infectious diseases, which are often unmanageable when scattered through a number of different camps on a large reservation.

COAL ON THE WHITE MOUNTAIN RESERVATION IN ARIZONA.

By the Indian appropriation act of July 4, 1834, the Secretary of the Interior was authorized to detail a proper person from the employes of the Geological Survey, and also to appoint a suitable person not then in the employ of the Government, to examine and report upon the character, extent, thickness, and depth of the coal veins on the White Mountain Reservation, the value of the coal per ton on the dump, and the best

method to utilize and dispose of the same, and the sum of \$2,500 was appropriated for that purpose. Under this authority a Commission composed of Michael Bannon, of Baltimore, Md., and Charles D. Walcott, a paleontologist in the Geological Survey, was sent to Arizona to make the required examination and report. Full instructions were given for their guidance, dated August 8, 1884, approved by the Department August 13, 1884. The report of the Commission has not yet been rendered.

MISSION INDIANS IN CALIFORNIA.

A bill for the relief of these Indians, embodying substantially the recommendations of Mrs. Helen Jackson, special agent (except that for the purchase of certain tracts of land), to which reference was made in my last annual report, was prepared and submitted to Congress, through the Department, and passed the Senate at its last session, but was not acted upon in the House of Representatives. Suits in ejectment have been brought against the Indians living in the San Jacinto Village, by the owner of the private grant within which it is situated. The Indians are defended by Messrs. Brunson and Wells, special counsel employed by the Department of Justice. These cases have not yet come to trial. It is hoped that the bill referred to will receive favorable consideration in the House of Representatives during the coming session.

THE YUMAS IN SOUTHERN CALIFORNIA.

As was stated in my last annual report, a reservation was established (July 6, 1883) for the Yuma Indians at the confluence of the Colorado and Gila Rivers, on the Arizona side, where it was intended they should be gathered and assisted in agricultural pursuits. Subsequent investigation, however, disclosed the unsuitableness of the tract selected, and besides the Indians were found to be opposed to removal there. Accordingly, by Executive order dated January 9, 1884, the reservation was restored to the public domain, and a new one established on the California side, in the extreme southwest corner of the State.

By the same order the Fort Yuma Military Reservation was transferred to the control of this Department, to be used for Indian purposes, in connection with the Indian reservation; and, at the request of the Department, on the recommendation of this office, the military post buildings have also been transferred by the War Department for Indian school purposes. A bill was introduced in Congress at the last session (H. R. 1661) "to provide for the establishment and maintenance of an Indian school at Yuma, in Yuma County, Arizona, and to make an appropriation therefor." It is understood to have been favorably reported by the House committee, but no final action was reached. It appropriates the sum of \$9,000 for the purpose. The Yumas are a very peaceable and industrious people, and ought to receive some assistance from the Government.

KLAMATH RIVER INDIANS IN CALIFORNIA.

The work of allotting lands in severalty to the Indians of the Klamath River Reservation in California, as directed in Department letter of March 26, 1883, has been suspended for the present, owing to errors discovered in the public surveys within the reservation, particulars of which were reported to the Department in office letter of August 16th last. Bills have been introduced in the present Congress "to restore

the reservation to the public domain" (S. 813 and H. R. 112 and 7505). Provision is made therein, however, for the allotment of lands in severalty to the Indians.

THE TURTLE MOUNTAIN BAND OF CHIPPEWAS IN DAKOTA.

Agreeably with the recommendation contained in my last annual report, a permanent reservation has been made for the Turtle Mountain band of Chippewas in Dakota. At first townships 162 and 163 north, range 71 west, were selected, but subsequently township 162 north, range 70 west, was substituted for township 163 north, range 71 west, so that the reservation as now existing embraces townships 162 north, ranges 70 and 71 west. (Executive orders dated March 29, 1884, and June 3, 1884.) These Indians will need some help for a time, and I shall ask for a small appropriation for that purpose in the estimates for the next fiscal year.

COMMISSION TO SIOUX OF DAKOTA.

At the date of my last annual report the work of the Sioux Commission had reached a point briefly, as follows: Congress having failed to ratify the agreement negotiated by said Commission under the act of August 7, 1882, presumably for the reason that it was not executed in literal compliance with the treaty of April 29, 1868, the Commission were under instructions to continue negotiations with the Indians, provision for that purpose having been made in the sundry civil appropriation act of March 3, 1883 (Stat. 22, p. 624), but their final report had not been submitted to the Department. The attempt to procure the signatures of three-fourths of the male adult Indians, as required, proved unsuccessful, and the agreement was returned to the Department without change. A full history of the proceedings of the Commission and the causes which led to the failure, is set out in their report to the Department dated December 31, 1883. Said report together with the agreement and all correspondence between the Department and any official or other individuals concerning said agreements or the ratification thereof is printed in Senate Ex. Doc. No. 70, Forty-eighth Congress, first session, in which form it will be found easy of reference.

It having been represented to the Department that the Sisseton and Wahpeton and the Yankton bands of Sioux were desirous of disposing of a limited portion of their respective reservations, the Sioux Commission were instructed, under date of May 10th last, to visit said reservations and ascertain if such was the case, and if so to negotiate with them as to the quantity they would cede, the conditions as to the price, &c. No report has been received from them up to this date, but the agent for the Sisseton and Wahpeton bands reports that his Indians are unwilling to part with any of their lands, and that the visit of the Commission was unsuccessful.

A select committee appointed by the Senate to inquire into the condition of the Indians in Dakota and Montana reported a bill (S. 1755) "to divide a portion of the reservation of the Sioux Nation of Indians in Dakota into separate reservations, and to secure the relinquishment of the Indian title to the remainder," which was amended and passed the Senate April 16, 1884. In the House the bill was referred to the Committee on Indian Affairs, and reported back with amendments May 31, 1884, but no further action was had and it remains on the calendar.

RIGHT OF INDIANS IN THE INDIAN TERRITORY TO TAX CATTLE AND PROHIBIT THE ENTRY OF INFECTED CATTLE.

The right of the Indians in the Indian Territory to tax cattle driven through their lands *en route* to market, and to prohibit the introduction of foreign cattle at certain seasons of the year, is a subject of constantly recurring trouble to this office. Conflicts are continually arising between cattle men and the civilized tribes, most if not all of whom have prohibitory laws bearing on the subject.

The Senate Committee on Indian Affairs, in a report made June 22, 1874, upon the petition of citizens of the State of Kansas, remonstrating against the imposition by the Cherokee Nation of a tax of 10 cents per head upon cattle driven through their Territory from Texas to northern markets, was of opinion that the spirit if not the letter of the law fully justified the Indians in the levy of the tax, and that the Department ought to sustain them in its enforcement so long as it did not exceed the penalty imposed by the law of June 30, 1834 (section 2117, Revised Statutes), for grazing stock on Indian lands, which is \$1 per head.*

The United States court in the western district of Arkansas (Judge I. C. Parker), however, takes a different view of the subject, and holds that a tax imposed by the Creek Nation on cattle passing through their country is a burden laid upon commerce between the States, the regulation of which belongs to Congress alone. This decision, until overruled, is of course binding upon the Department, but I have thought it proper to call the attention of the Department to the subject, as it is one which affords the Indians constant cause of complaint, and not without show of reason, especially as regards infected cattle. As to these I believe the bordering States, certainly Kansas and Missouri, have prohibitory laws, which are rigidly enforced. The Indians, especially the civilized tribes, who have fine herds of cattle, consider that they should be similarly protected.

ATTEMPTED SETTLEMENTS IN THE INDIAN TERRITORY.

In previous reports of this office the attention of the Department has been repeatedly called to the periodical invasions of certain portions of the Indian Territory by bodies of United States citizens, under the leadership of D. L. Payne and others, styling themselves "Oklahoma Colonists." Recommendations have as repeatedly been made for an amendment of existing laws relating to trespassers on Indian lands, so as to make such offenses punishable by imprisonment as well as by fine. Measures looking to that end have been introduced in Congress but hitherto have invariably failed to receive the concurrent action of both Houses. During the present year Payne has again twice sought to obtain a foothold in the Territory; the first time in May last, when, with a party of about fifty, he endeavored to effect a settlement on the unoccupied lands south of the Cimarron River, from whence they were dislodged by the military, not without considerable show of resistance; and later, in the month of June last, when, with largely increased numbers, he established himself on the Cherokee lands south of Hunnewell, Kans., locating settlements at various points therein, designated as "Rock Falls" on the Chicaskia River, "Stafford" or "Pearl City" on the Bois d'Arc, and at other places along the Arkansas River; the

* S. Ex. Doc. No. 74, Forty-fifth Congress, second session.

headquarters of the colony being at Rock Falls, four miles south of the Kansas line.

The official report of Colonel Hatch, commanding the district of Oklahoma, dated 6th August last, states that prior to active operations he visited the principal rendezvous of the intruders, and explained to the leaders and people present the object of his mission, reading to them the President's proclamation of July 31 last, and informing them of the condition of the Indian lands, and the necessity of the Government maintaining the status thereof. Most of the intruders of the better class, and some others, upon reflection, concluded to move at once. The leaders, Payne, Cooper, Miller, Couch, Eichelburger, and others were defiant, and refused to move unless compelled by superior force. On the 7th August such of the intruders as remained at Rock Falls, were, with their private property, removed from the Territory by the military, with the exception of Payne and some others, old offenders, who were arrested and turned over to the civil authorities at Fort Smith. The settlement at "Stafford City," on the Bois d'Arc, was on the arrival of the military there found to have been recently evacuated. At Chillott Creek, 1½ miles from the State line, a small party of "boomers" was found encamped, three of whom were also arrested as old offenders, and turned over to the United States marshal. The number of persons engaged in this last movement was variously estimated at from five hundred to two thousand, and it appears from the official reports to the War Department, that from 6,000 to 10,000 claims had been located and surveyed on the Cherokee lands, land in the southern part of Kansas having become so valuable that men of means, owning large farms had sent to the Oklahoma Colony organization parties who were locating claims for them. A subsequent official report of Colonel Hatch, dated the 22d August last, conveys the information that nearly all the intruders on the Cherokee Outlet lands were out of the Territory, and that probably by the 15th September, the removal of all unauthorized settlers and of the fences erected by cattle men in Oklahoma proper, as directed by the Secretary of War, would be completed. Recommending a proper disposition of troops for the protection of the Territory from further invasion, Colonel Hatch remarks :

At many points on the Kansas border are camped parties who say they will move into the Territory as soon as the troops are moved from it. Payne and the men with him who are engaged in locating claims will continue to agitate the opening of this Territory in the same manner as before ; not that they really desire to have the country settled, but that they may obtain money from the ignorant people deluded into the purchase of claims and town lots, and from the fees paid on joining what they term the "Oklahoma Colony."

The payments for surveys, claims, town lots, and initiation fees must in the aggregate have already amounted to the neighborhood of \$100,000, all of which has been divided among the leaders. Should the country be opened to settlers there would be an end to their profits ; hence, in my opinion, Payne and his immediate associates do not want it declared open.

There is no possible excuse for these repeated lawless invasions of the Indian Territory on the ground (as the invaders hold) that the unoccupied lands thereof are public lands of the United States, and as such open to settlement. They are not public lands in any sense as yet, whatever disposition may be made of them hereafter. By the terms of the treaty of 1866 with the Cherokees the United States is empowered to settle friendly Indians in any part of the Cherokee country west of 96°, in quantity as therein provided, the boundaries of the districts thus settled to be distinctly marked and the land conveyed in fee-simple to each of such tribes so settled, to be held in common or in severalty, as the United States may decide, the lands thus disposed of to be paid

for to the Cherokee Nation at such price as may be agreed upon between the parties in interest, subject to the approval of the President; the Cherokee Nation to retain the right of possession and jurisdiction over all of said country west of 96° until thus sold and occupied, after which their jurisdiction and right of possession terminates as to each district thus sold and occupied. It may here be remarked that, in the exercise of this right of possession and jurisdiction, the Cherokees have, by an act of their national council (approved by the principal chief), leased said unoccupied lands to the Cherokee Strip Live Stock Association, for grazing purposes, for a term of five years, at an annual rental payable to the nation, subject, nevertheless, to the treaty rights reserved to the United States to settle friendly Indians thereon at any time during the continuance of said lease. There is no general cession of these lands to the United States, no surrender by the Cherokees of possession or jurisdiction, until such time as a certain specified purchaser shall have complied with the terms of the purchase and entered into possession. Until that event happens the United States is bound by the terms of the treaty to protect the Cherokees in their possessory rights to the lands in question. So also in regard to the other unoccupied lands of the Indian Territory—notably the so-called Oklahoma lands—which have from time to time been ceded to the United States by various Indian nations or tribes. Here, again, there is no *general* cession to the United States, but a cession for express purposes only, which are clearly limited and defined in the treaties with the nations or tribes from whom the United States acquired title, viz, for the settlement of other Indians and freedmen thereon. It is equally the duty of the Government to maintain the status of these lands intact.

At the first session of the present Congress a bill (S. 1545) “to amend section 2148 of the Revised Statutes of the United States, in relation to trespassers on Indian lands,” passed the Senate, but was not reached in the House. This bill prohibits any person from entering Indian lands, tribal reservations, or lands specially set apart for Indian purposes, with intent to occupy any such lands or reservation, under a penalty for the first offense of a fine of not more than \$500, or imprisonment at hard labor for not more than one year, or both, in the discretion of the court; and for every subsequent offense a fine is imposed of not more than \$1,000, with imprisonment at hard labor for not more than two years. It also provides for confiscation and forfeiture of the wagons, teams, and outfit of the intruders, by process in the proper United States courts.

It is manifest that without the passage of some stringent law of this kind intruders can only be kept out by the troops, and should they at any time be temporarily withdrawn for any purpose the Territory would be rapidly overrun.

The construction of the Southern Kansas Railway and the Gulf, Colorado and Santa Fé Railway, both of which roads were authorized by the present Congress at its last session to be built through the Indian Territory, will doubtless bring with it a miscellaneous population, who, under cover of the railroads, will attempt to settle the country. In a recent communication, dated September 8 last, I had the honor to draw the attention of the Department to this contingency, and to recommend that the War Department be requested to make such timely disposition of troops in the Territory as may avert the threatened evil. It is to be hoped that Congress will not fail to recognize the importance of the preservation of peace, and the obligation of the Government to protect the Indians in the Indian Territory in the quiet enjoyment of their right

of person and property, by the early passage at the coming session of the bill referred to, or some equally comprehensive and efficient measure.

Information reached this office in May last of an attempt by citizens of Texas to colonize the unoccupied lands in the southwest corner of the Indian Territory, lying west of the North Fork of Red River, which lands are claimed by the State of Texas and are involved in the question of the disputed boundary line between Texas and the United States, in regard to which a bill (H. R. 1565) authorizing the appointment of a commission to run and mark said boundary line is now pending before Congress. The matter was on the 2d of June last referred by the Department to the honorable Secretary of War, with the statement that, in the absence of any definite settlement of the controversy, the status of the lands must be maintained as Indian country, and requesting the service of the military in removing all intruders therefrom. The official reports of the War Department show that the settlers were notified to vacate the lands by the 1st October, 1884, failing which they would be promptly removed by the troops.

INTRUDERS AND DISPUTED CITIZENSHIP IN THE INDIAN TERRITORY.

By your decision of March 15, 1884, the act of the Choctaw council, approved October 21, 1882, has been made the basis for determining all questions relating to intruders and disputed citizenship in that nation. Under this decision instructions were given Agent Tufts under date of March 22, 1884, which are hereto appended, together with the act of the Choctaw council. The method of dealing with these questions thus adopted leaves their ultimate decision with the Department in accordance with the opinion of the honorable Attorney-General (16 Opinions, 404), and it is believed will produce satisfactory results. No action on this matter has been taken by the other civilized nations, but the Senate Committee on Indian Affairs is about to visit the Territory for the purpose of investigating the subject, among other matters, and it is presumed will present a report which will enable Congress to reach a satisfactory solution of the question at the ensuing session.

* * * * *

FREEDMEN IN THE INDIAN TERRITORY.

Since the date of my last annual report the act of the Choctaw Council, approved May 21, 1883, therein referred to, has been held by you to be a substantial compliance with the terms of the third article of the treaty of 1866 (14 Stat., 770), and three-fourths of the sum of \$10,000 appropriated for the education of freedmen in the Choctaw and Chickasaw Nations by the act of May 17, 1882 (22 Stat., 72), has been paid over to the Choctaw authorities. This question, therefore, may be regarded as settled, so far as the Choctaw Nation is concerned, while in the other nations it remains in the condition presented in my last report.

* * * * *

SALE OF OMAHA LANDS IN NEBRASKA, AND ALLOTMENT OF LANDS IN SEVERALTY TO OMAHA INDIANS.

The commission appointed to appraise the Omaha Reservation lands in Nebraska west of the Sioux City and Nebraska Railroad under the act of August 7, 1882 (Stat. 22, p. 341), submitted their report and schedule of appraisement under date of October 11, 1883. The appraise-

ment was approved by the Department November 20, 1883, and the General Land Office directed to take steps for the disposal of the lands under the law. By public proclamation, dated March 19, 1884, the lands were thrown open to settlement from and after April 30, 1884, at 12 o'clock, noon. The total number of acres appraised and subject to disposal is 50,157, and the value thereof as appraised, \$512,670.24. The schedule, which gives a full description and valuation of the lands to be sold, has been printed and numerously circulated.

Allotments in severalty have been made to the Omahas in accordance with the provisions of the act aforesaid. Miss A. C. Fletcher, to whom, as special agent of the Department, the work was assigned, submitted her report and schedule of allotments under date of June 25, 1884. The allotments were approved by the Department July 11, 1884, and by letter of same date the General Land Office was directed to issue patents therefor in accordance with section 6 of the act, and to deliver the same to this office for distribution to the parties severally entitled thereto. The whole number of allotments made was 954. According to Miss Fletcher's report the total number of acres allotted was 76,809.68, of which 876.60 acres were allotted west of the railroad. The area of unallotted lands remaining within the reservation east of the railroad is a little in excess of 55,000 acres.

In regard to the good effect of this allotment, the agent reports as follows:

The principal event of importance of the past year has been the completion of the work of allotting to the Indians their lands in severalty, in accordance with the act of Congress approved August 7, 1882; 75,931 acres were allotted in 954 separate allotments to 1,194 persons. This number includes the wives, they receiving their lands with their respective husbands. About 55,450 acres remain to be patented to the tribe according to the act for the benefit of the children born during the period of the trust patents.

In the four townships nearest the railroad 326 allotments were taken, showing the practical appreciation by the people of a near market for their produce. In township 24, range 7 east of the sixth principal meridian, 105 allotments were made. The portion of this township lying west of the railroad and unallotted to Indians was opened last April to white settlement, and was immediately occupied. The unallotted portion of this township east of the railroad will next year be in the market, and the Indians located there will be surrounded by white neighbors, and thus be brought in close contact with civilized people. All the land lying near the white settlements which skirt the southern portion of the reservation is allotted; and the Indians, particularly those who are inclined to be progressive, are seeking rather than avoiding associations with the white people. This is a good indication. Progress cannot be made in isolation.

The increasing crops of the Omahas to be marketed make them an important factor in the prosperity of the growing villages in their vicinity, and the tradesmen in the villages encourage their efforts. The people seem more and more in earnest to advance in their farmer's mode of life. The security of their tenure of their land has had an excellent influence.

The very thorough manner in which the work of allotting those lands was done, and the practical instructions given them at the same time, have given those people an impetus which will never be lost. The thanks of every one of these people, and mine with them, are heartily given to Miss A. C. Fletcher for her noble work. Henceforth the land follows descent according to the laws of the State, and the registry kept by Miss Fletcher will facilitate in securing the proper inheritance. This registry, giving as it does the exact status of the families as they will be recognized by the Government in the patents, will also render valuable assistance in maintaining the integrity of the family, a most important matter in the welfare of this people.

Many of the leading men of the Omaha tribe in Nebraska have for some time favored the idea that the Government give the tribe entire control of its own affairs, without the interference or expense of an agent or of agency employes. Since the sale and allotment of a part of their reservation before referred to, this desire for independence, and their wish to do away with the expense of a regularly organized agency force,

has increased. Now more than half of these Indians live in comfortable houses; every family in the tribe has land under cultivation in farms ranging from ten to one hundred acres, and the acreage of tilled land is increasing every year. They are all moderately well supplied with stock, and with wagons, plows, and other necessary farming utensils, which they know how to use and take care of; and they have good mills, shops, and school-houses, and have been very successful in farming, so that, with their yearly cash income, they feel that their future necessities are provided for. The policy I have adopted in dealing with Indians is to prepare them as soon as possible to take care of themselves by civilized pursuits, and to encourage them in self-reliance, and I therefore looked with favor on this feeling of independence amongst the Omahas, believing that it was inspired by proper motives.

Therefore, on their request, made in council, I instructed the agent of the Omahas to discharge all agency employes at the Omaha Agency on the 30th day of last September, except the school employes and one person who is to remain there to act as physician and farmer and who will look after the interests of the Government and the Indians and keep this office informed of the progress of affairs there, and who will be retained until his services can be dispensed with. The agent was further instructed to turn over to the Omaha councilmen, in trust for the tribe, the mills, shops, dwellings, school-houses, live stock, and all public property on the Omaha Reservation, which transfer is no doubt completed by this time. While this is an experiment, it is believed that it will prove to be successful, and that the Omahas will demonstrate the wisdom of the methods now pursued by the Department looking to the ultimate civilization and independence of all the Indian tribes.

KICKAPOO ALLOTTEES UNDER TREATY OF 1862.

In my last three annual reports attention was called to the condition of affairs relative to the estates of deceased and minor allottees under the provisions of the treaty with the Kickapoo Indians of June 28, 1862 (13 Stat., 623), and to the fact that the treaty contains no provision whereby female allottees can become citizens and obtain patents for the lands allotted to them. That matter was submitted to Congress at its last session for the third time, with the result that the proposed bill passed the Senate but received no consideration in the House of Representatives.

EASTERN CHEROKEES.

In September, 1882, Joseph G. Hester was appointed agent to take a census and make a list of all the Cherokee Indians residing east of the Mississippi River, as required by an act approved August 7, 1882. To assist him in this work, I furnished him with copies of four previous lists of this people. One taken by J. C. Mullan as early as 1848, containing the names of all who resided in the State of North Carolina at the time of the treaty of 1836, and who had not removed West, and one taken by D. W. Siler in pursuance of an act approved September 30, 1850, which, it is believed, includes all of these people then residing in North Carolina, Georgia, Tennessee, and Alabama. This roll was used by Alfred Chapman, acting for this Department, in the following year, to make a per capita payment to the Eastern Cherokees, and in doing so he found it necessary from evidence presented to make a few changes, so that a copy of the pay-roll made by him was also given to the agent

together with a copy of a list of these people taken by S. H. Swetland under an act approved July 27, 1868.

In consequence of the wide distribution of these Indians and their descendants over many States, a great majority living in localities remote from all usual routes of travel, the task proved to be of much greater magnitude, difficulty, and expense than was at first anticipated, and it was not until the 5th of last January that it could be completed and the list submitted. It contains the names of 1,881 members residing in North Carolina, 758 in Georgia, 213 in Tennessee, 71 in Alabama, 11 in Kentucky, 8 in New Jersey, 5 in Virginia, 3 each in Kansas (at present) and South Carolina, and 1 each in California, Colorado, and Illinois (at present), making a total membership of 2,956.

It gives the English and Indian names (when they have both), the age and sex of each, and the residence or post-office address of every family or single person, together with the relationship of each member of a family to the head thereof. Reference is also made to the numbers opposite their names, or the names of their ancestors on the previous rolls above noted, that they may be identified there, and there are such marginal references and explanatory notes as special cases seemed to require. Thus no person's name was enrolled on this list whose name or the name of whose ancestor does not appear on some one of the previous lists, and all except forty-seven on the previous lists are accounted for, either as dead, as having gone west to reside with the Nation in the Indian Territory, or by enrollment as now residing east of the Mississippi River. These forty-seven persons whose whereabouts could not be ascertained are believed by their friends and relatives to have either died, gone west, or to be now known by different names from those under which they were previously enrolled. A list of the forty-seven names is given with this census. While the agent was engaged in the work, various persons presented themselves to him, claiming to be Eastern Cherokees or their descendants, whom he declined to enroll, not believing the evidence they submitted sufficient to sustain their claims. He files with the census a list of their names, accompanied by all the papers and information he had received or could obtain in reference to them, which may be useful in case any of those so rejected in future claim that they have been wronged.

The census list, together with all evidence and information available pertaining to it, was laid before a council of the Eastern Cherokees at their request (due notice having been given to the Cherokee Nation in the Indian Territory to be present by delegates if they so desired), and after having been carefully scrutinized by said council was fully approved by them. A certificate signed by the council to that effect accompanies the list, which list, after having been carefully examined and compared with the previous rolls in this office, was on my recommendation approved by the Department on the 4th of last February.

TOWN OF PENDLETON, OREGON—SALE OF UMATILLA RESERVATION LANDS FOR TOWN PURPOSES.*

Referring to the mention of this subject in my last annual report, I have to say that the appraisement of the lands referred to in the above title was completed in the early part of October following, and approved by the Department under date December 22, 1883. The lands, which had been surveyed and laid out into blocks and lots, were offered for

*Act August 5, 1882. Stat. 22, p. 297.

sale at public auction in the town of Pendleton in May last, and nearly all disposed of.

I have been informally advised by the General Land Office that the proceeds from the sales will aggregate very much more than the appraised value, which was \$24,344.95, not including the Goodwin tract. More than that amount has already been received on account of cash entries or first payments, and it is estimated that the second and third payments will increase this sum by \$35,000, so that the total that will be realized from the sales will probably not be less than \$60,000. A few lots remain unsold. The Moses E. Goodwin claim referred to in the second section of the act was appraised at \$2.50 per acre; area, 2,672.09 acres; value, \$6,680. The funds arising from the sale of these lands, after deducting the expenses incidental thereto, are to be placed in the Treasury to the credit of the Indians of the Umatilla reservation, and bear interest at the rate of 5 per cent. per annum, and the Secretary of the Interior is authorized to expend so much of the principal and accrued interest as he may see fit in the support of an industrial school for said Indians on said reservation.

AGREEMENT WITH CHIEF MOSES.

The agreement with Chief Moses and other Indians of the Columbia and Colville Reservations, in Washington Territory, entered into July 7, 1883, was ratified and confirmed by a clause in the Indian appropriation act for the current year, and the sum of \$85,000 appropriated to carry the same into effect.

A special agent of this office has been instructed to visit these Indians for the purpose of fulfilling the stipulations of the agreement so far as rendered necessary by their compliance with its conditions. He is now with them in the discharge of that duty.

LOGGING OPERATIONS BY INDIANS AT LA POINTE AGENCY, WISCONSIN.

Under the provisions of the treaty with the Chippewa Indians of Lake Superior, September 30, 1854 (10 Statutes at Large, 1109), over five hundred Indians have received patents for 80-acre tracts, variously located on the Lac Court d'Oreilles, Bad River, and Red Cliff reservations, and restricted against sale, lease, or alienation without consent of the President of the United States. Most of the lands patented are heavily timbered with pine. The Indians being desirous of turning the timber to account, authority was on the 28th September, 1882, granted by the Department for all such patentees to cut and sell the timber from three-fourths of the tract patented, leaving the remaining one-fourth of the timber in a compact body, intact for future use for fuel, fencing, &c.

The Indians were not permitted to sell stumpage, neither were white crews to be allowed on the reservations to do the work, but the Indians themselves were to cut and sell, delivered on the bank of a driving stream, lake, or at mill, as should be agreed upon with the purchaser. The logs were to be scaled by a competent person approved by the United States Indian agent, and scaling charges were to be paid equally by the parties to the contract. Payment was to be made to the Indian owner from time to time during progress of the work, as should be agreed upon between the contracting parties, final payment to be made before removal of the logs. The Indians were to be at liberty to make their own contracts, subject to the approval of the United States Indian agent and the Commissioner of Indian Affairs. Bonds were required

from the purchasers in a sum sufficient to insure the faithful performance of the contracts.

During the season of 1882-'83, forty-two contracts, prepared in accordance with form approved by the Department November 1, 1882, were made by individual Indians holding patents for lands on the Lac Court d'Oreilles, Bad River, and Red Cliff Reserves, variously calling for from 30,000 to 900,000 feet of pine, ranging from \$5. to \$6.50 per 1,000 feet. These, with accompanying bonds, were submitted by the agent and approved by this office. The result of these operations was in the main very satisfactory, the Indians for the most part coming out considerably ahead of their contracts, many of them at the close of the season being in possession of cattle, horses, sleds, household goods, implements, and in some instances considerable cash balances, independent of supplies furnished by the contractor:

During the season of 1883-'84 the operations were on a more extended scale, eighty-eight contracts, just double the number in the previous season, having been entered into and approved, independently of some cases, where, notwithstanding the vigilance of the agent, logs had been prepared for market by the Indians without the formality of a contract. The returns show that during that season over 48,000,000 of feet of timber were cut and banked, ready for delivery by the Indians, representing a money value of over \$250,000. The result of these operations showing the net amount cleared by the Indian owners of the logs may be summarized as follows:

Lac Court d'Oreilles Reserve:

Cash balances paid to Indians after deducting supplies furnished by contractors.....	\$32,466 40
Oxen on hand—value.....	2,585 00
Horses on hand—value.....	2,950 00
Camp outfits—value	4,640 00

Leaving (as the net result of the contracts made by 46 Indians) 42,641 40

Red Cliff Reserve:

Cash balances paid to Indians after deducting supplies	1,190 13
Horses, wagons, &c., on hand.....	918 00
One house and lot.....	1,000 00
One house and lot—value not given .....	.....

(Leaving (as the net result of the contracts made by 5 Indians)..... 3,108 13

Bad River Reserve:

Cash balances paid to Indians after deducting supplies (this being the net result of contracts made by 25 Indians).....	18,448 52
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This, it will be observed, is independent of supplies with which the Indians were furnished and charged by the contractors during the progress of the work. The figures above given represent only the net gain of the Indians who made the contracts, while, as a matter of fact, all the available male adult population of the reserves were engaged in the work and derived their principal means of support therefrom. In his report accompanying these statistics, the agent remarks that the logging operations have generally been satisfactory to him, and he believes profitable to the Indians, both pecuniarily and as a matter of education, and although he considers that to sell the stumpage directly to buyers with authority to put in the pine with white crews would realize more money for the individual Indian owners, he still deems the present method, with some modifications, the best. By selling the stumpage, the Indian owners would get their money without labor; the remainder of the Indians would be left idle; in a short time the

timber would be cut off and the Indians not having acquired the habit of labor, and naturally improvident, with money easily acquired, would be poorer and more dependent than ever. Owing to the want of knowledge of logging operations, caring for and handling teams, &c., by the Indians, the agent was at an early stage of the proceedings authorized to allow the employment of white foremen, cooks, and teamsters to a limited extent in the lumber camps. He thinks the Indians have now had sufficient experience to dispense entirely with white labor, and recommends that hereafter white labor of any kind be dispensed with, except allowing a white contractor to employ a man at his own expense to see that the work is properly done according to contract. I have been induced to treat this subject at considerable length on account of the experimental character of the work. It has so far proved to be an experiment in the right direction, and I therefore think the benefit derived by the Indians pecuniarily and as a matter of practical education should appear on record, as some answer to the argument that the Indian will not work.

I have the honor to be, sir,
Very respectfully, your obedient servant,

H. PRICE,
Commissioner.

The Hon. SECRETARY OF THE INTERIOR.

REPORT OF THE SUPERINTENDENT OF THE CENSUS.

DEPARTMENT OF THE INTERIOR,
CENSUS OFFICE,
Washington, D. C., November 13, 1884.

SIR: I have the honor to submit the following report of the operations of this office during the past year. At the date of the last annual report of the Superintendent of Census, September 15, 1883, there had been published only the Compendium of the Tenth Census, consisting of two octavo volumes of 923 and 856 pages, respectively. During the year which has since elapsed the following numbered volumes of quarto size have been published:

Vol.	Subject.	Pages.
1	Population	1,050
2	Statistics of Manufactures	1,248
3	Statistics of Agriculture	1,149
4	Agencies of Transportation	869
5	Cotton Culture in the United States	924
6	.....do.....	848
7	Valuation, Taxation, and Public Indebtedness	919
8	Miscellaneous volume containing four reports, viz:	
	On Newspapers and Periodicals.....	1,111
	On Alaska, its Resources, &c	
	On the Alaskan Fur Seal Islands	
	On Ship-Building	

Volume 9, a quarto of 620 pages, devoted to the statistics of forestry and the lumbering interests of the country, and supplemented with a portfolio of maps, showing the distribution of the forests in the several States, will be published in the month of November. It is now in the hands of the Public Printer, and all printed except the index, which is being rapidly prepared.

Volume 10, a quarto of 868 pages, will contain the following-named monographs: (1) Quarries and Building Stones; (2) Petroleum; (3) Coke. This volume is stereotyped, and the entire edition has been printed. It only awaits the receipt of a few illustrations before being bound and published. It will doubtless appear simultaneously with or immediately after the issuance of volume 9.

The little work remaining to be done by special agents is as follows:

The text of the report on the Defective, Dependent, and Delinquent Classes of the Population is being prepared by Mr. F. H. Wines. A like labor is being performed by Surgeon J. S. Billings on the Mortality of the Population. Mr. J. R. Dodge is similarly engaged on the report relating to Sheep Husbandry, and an introductory chapter to the report on the Production of the Precious Metals is being prepared by Mr. Clarence King. This latter report, which will be comprised in two volumes, is otherwise ready for the printing-presses, having been put in type and stereotyped some months ago.

The report by Surgeon J. S. Billings on the Mortality of the Population has, in the main, been stereotyped, a few small tables, the introductory text and the index only remaining incomplete. The two volumes containing this report can readily follow the publication of the volumes devoted to the report on the precious metals.

The report by Prof. Raphael Pumpelly on the Production of Minor and Base Minerals lacks only the introductory text before being placed in the hands of the Public Printer for publication.

The manuscript of the several monographs, constituting a report on the water-power of the country, is all in hand, with illustrations, and ready in turn for the printer.

The report on the Fisheries of the United States, by Prof. G. Brown Goode, is also complete and in hand, as is also the report on the Social Statistics of Cities, by Col. Geo. E. Waring, jr.

A monograph by Prof. F. R. Hutton on the Manufacture of Shop and Machine Tools, vividly illustrated, has been stereotyped and is at the Government Printing Office ready for publication. It will form part of a volume devoted to the statistics and history of the manufacture of mechanical contrivances. The remainder of the matter for this volume is also in hand and only requires arrangement for the printer.

A report by Special Agent J. D. Weeks on Wages paid in Manufacturing Industries in the United States is substantially completed.

The publication of this paper has already been ordered by the House of Representatives, to be issued as a miscellaneous House document. It will, therefore, first be given to the public in this form.

A volume devoted to the Statistics of Fire and of Life Insurance will form part of the final report. The manuscript is in hand and only requires arrangement for the printer.

Statistics relating to the manufacture of gas are complete and await publication. A report on the ice crop and its consumption is also finished.

With the exceptions heretofore noted the only unfinished work in the preparation of our report relates to the tabulation of statistics of schools, churches, and libraries. These completed, the entire force would be employed in revision, proof-reading, &c., necessary, in co-operation with the Public Printer, while the several volumes are going through the press. Estimates of the amount required to bring the complete report to publication have already been submitted. By the terms of the act of July 7, 1884, making appropriations for sundry civil expenses, it was provided that the sum of \$30,000 should be appropriated

"for the work of taking the Tenth Census and closing the Bureau on January 1, 1885." Even with the retention of the entire force employed at the date of the passage of this bill, it would have been impossible to complete the final report within the limitation of time therein prescribed; but the inadequate sum appropriated necessitated a heavy reduction in our clerical force, and has thereby correspondingly delayed the work of the office.

Furthermore, the same act authorized the printing of additional copies of the Compendium of the Tenth Census and of various monographs, thus devolving upon the Superintendent and his already crippled force, a serious burden of extra labor, which was not considered in fixing the limitation of time and of appropriation prescribed by this act.

I have, therefore, the honor to request that a recommendation may be submitted to Congress that the time for the completion of all tabulations and the preparation of all original matter for the final report on the Tenth Census be extended until July 1, 1885; that the additional sum of \$45,000 already submitted in estimate for a deficiency in the present fiscal year be appropriated, and that the further appropriation of \$10,000 be made for the expenses of such force as shall be required in this office during the fiscal year ending June 30, 1886, for revision, proof-reading, &c., in co-operation with the office of the Public Printer, while the remaining volumes of the report are being published.

Very respectfully, your obedient servant,

C. W. SEATON,
Superintendent of Census.

The SECRETARY OF THE INTERIOR,
Washington, D. C.

REPORT OF THE ARCHITECT OF THE UNITED STATES CAPITOL.

OFFICE OF ARCHITECT UNITED STATES CAPITOL,
Washington, D. C., July 1, 1884.

SIR: Of the work intrusted to this office during the last fiscal year, I have the honor to submit the following:

THE CAPITOL.

Several changes in the occupation of committee rooms have taken place, which have caused an unusual amount of refitting and repairs to secure satisfactory accommodations for the committees. Among these changes, the Senate post-office has been moved from the room in the principal and taken to the large hall in the northeastern part of the basement story. A committee room has also been made at the north end of the western corridor of the old building. Heating coils have been placed in the new post-office corridor, the two rooms at the south end of the main corridor in the basement story, and in the rooms occupied by the Clerk of the House, in the same story. The heating apparatus of the central portion of the building has been thoroughly repaired and improved. The building throughout has been kept in good condition, and the exterior of the central portion newly painted.

The fire-proofing of the room over the colonnade at the south end of the old Hall of Representatives has been completed, as has also the shelving for books in the gallery of the same hall.

The heating apparatus of the south wing has been placed in good condition by the insertion of new tubes in the boilers and sundry other repairs to the same.

As to the working of this apparatus, Mr. William Lannan, the engineer, reports:

Since my last report the boilers have been thoroughly overhauled and repaired. All the flues in Nos. 2, 3, and 5 were removed, when it was found that by cutting off the defective ends of those in the upper section they could be used in the lower section. This was done, and by placing new flues in the lower sections, with new flue-sheets in Nos. 2 and 3, we have the boilers safe and in good repair.

The engines and heating apparatus are in good order, and will require only the ordinary running repairs this year.

The important averages taken from our daily observations during the last session of Congress are as follows:

Revolutions of fan	per minute..	51
Volume of air carried to Hall each revolution.....	cubic feet..	836
Volume of air carried to Hall per minute	do....	46,816
Volume of air carried to Hall per minute for each person.....	do....	66
Volume of air removed from Hall per minute for each person, through louvers in roof.....	cubic feet..	65
Average relative humidity.....	per cent..	56
Average daily attendance (about).....		709

By comparing this statement with former ones, it will be seen that in this the volume of air carried to Hall is slightly in excess of the volume removed at the louvers in roof, while formerly this was the reverse. This is the condition we have been trying to reach for some time, as the air is nearly balanced, with a slight outward current at the doors, thereby preventing the influx of tobacco smoke and other impurities from the corridors.

Daily and accurate observations are made and recorded during the session showing the amount of air delivered into and taken from the Hall, its temperature and hygrometric condition, but in the above report of Mr. Lannan, for the sake of brevity, only the average during the winter months is given.

During these months the temperature has never been higher than 71° or lower than 69°, the average variation being .93°.

Of the electric lighting apparatus, Mr. Talcott, the electrician, says:

During the past year the operations of the electrician's department have been almost entirely routine. Although the session of Congress was a protracted one, the number of night sessions requiring the Hall, rotunda, tholus, and statuary hall to be lighted was quite small; less than is usually required for the short session. During the early part of the session there were quite an extraordinary number of dark, cloudy days when the lighting of the Hall of the House was required in whole or in part for a portion at least of the sessions. The supply of gas was on several occasions not as great as it should have been, and on two or three occasions in the latter part of June a dense black smoke was emitted, especially when the pressure was reduced by limiting the flow at the stop-cocks.

The apparatus is in excellent condition throughout, and no expenditures are likely to be required beyond the occasional replacement of burners and the substitution of new platina wires, as from one cause and another they become broken.

The constantly-increasing number of electric call-bells adds slightly to the cost of the electric service, but it is trifling compared with the benefits derived.

In connection with the electric lighting, I will say that it was found advisable to place electric lights at the top of the steps at the north, south, and western approaches.

The United States Electric Lighting Company sought the opportunity to display their lights at these places last winter at their own cost.

An arrangement has been made with that company from this date for such lights as may be needed at the top of these steps, at the rate of 80 cents per light per night.

With the concurrence of the chairmen of the Committees on Public Buildings and Grounds of the respective houses, the Brush-Swan Com-

pany were permitted to put lights at the upper part of the dome, with which to make experiments as to the lighting of the Capitol grounds and the avenues of the city radiating from the Capitol, with the expressed understanding that this is to be done at their own expense and without injury to the building, and to be taken away upon given notice.

CAPITOL GROUNDS.

Mr. Frederick Law Olmsted, landscape architect, says, in his annual report, that—

The more important work in pursuance of the design for the improvement of the Capitol grounds during the last year has been that of the south approach of the terrace, and a short section of the terrace proper, in connection with the north approach.

Congress having evinced its satisfaction with the result, it needs only to be said with reference to its future action that experience sustains the lowest estimates of the cost of the work that have been at any time presented.

The increased breadth and depth of foliage on the ground causes greater obscurity, facilitating depredations and disorder. It is advised that two roundsmen be added to the watch—one for day, the other for night duty.

Ten years ago more than a hundred trees, of considerable size (from 20 to 50 inches in girth, or about 1 foot in diameter on an average), were transplanted on the Capitol grounds. They were not in a thrifty condition, and to adapt them to removal their roots were all cut off at a distance not greater in any case than $3\frac{1}{4}$ feet from the trunk. Their branches were also closely shortened-in, reducing their heads to from one to two-thirds their original size. It was considered a question whether the trees would retain enough of vital energy to survive, and the operation was often referred to for some years afterwards as an injudicious and disastrous one. It is therefore desirable that attention should be called to the results as now to be observed.

The condition of two of the trees were regarded at the time as especially hazardous, and these were placed where in case of failure their absence would not be important.

After three years they were still living, and promising to live but not to flourish, they therefore were felled.

Of the remainder no tree has died as the result of the removal, and those that have escaped serious injury from causes not connected with the removal are all now living and in a thriving condition. In general, their heads are much larger as well as much denser than they had been before they were shortened-in, and they are growing more rapidly than before their removal. Their rate of growth is also more rapid than that of trees on the ground of corresponding species and age, that have not been removed, the reason being that the soil of the latter could not be thoroughly improved without lifting them.

To more distinctly present the degree in which the operation has been successful, twenty of these transplanted trees have been measured, selecting those which, because of their size or other circumstances, presented the greater difficulties. The measurements are given in an appendix, and supply indices of the present thrift of the trees. Similar measurements are also given of trees of numerous sorts obtained from commercial nurseries, or from the indigenous woods near Washington, these when removed having been generally small saplings.

COURT-HOUSE.

Steam coils supplied from the boilers of the new portion of the building have been placed in the rooms occupied by the marshal in the east wing of the old building, and a room in connection with the marshal's office has been fitted up with closets for the uniforms of bailiffs and other attendants. The two large court-rooms have been painted, including walls and ceilings, and the hot-air furnaces so repaired as to run through the cold season. Vestibules and doorways have been placed at the north, east, and west entrances of the basement story, to keep out the cold air of winter.

I again recommend, as a measure of economy and comfort, that the steam-heating apparatus be extended through the whole of the old portion of the building, and that the office rooms now unoccupied in the upper story of this portion of the building, as well as some rooms in its basement story, be put in a condition for occupancy.

BOTANIC GARDEN.

Under the direction of the Committee on the Library, I have, as heretofore, attended to the improvements and repairs at this place.

The main conservatory and several of the hot-houses have been painted two coats, both inside and out. One new boiler has been procured and set in the large conservatory, and two in the greenhouses at the south side of Maryland avenue. The Bartholdi fountain has been bronzed. The lawns north of the center walk have been raised to the proper grade, covered with top-soil, and planted to grass. The asphaltic concrete walks have been extended, and sundry carpenter and brick work done to keep the hot and forcing houses in good order.

Statement showing amounts expended from June 30, 1883, to June 30, 1884.

CAPITOL EXTENSION.

Pay-rolls, laborers, mechanics, &c	\$35,242 06
Labor paid by voucher, not on rolls	476 02
Paints, oils, and brushes	2,783 13
Materials, plumbing and steam fitting	2,347 41
Hardware and iron	1,413 84
Lumber	2,811 98
Freight, hauling and expressage	166 74
Cleaning and repairing clocks	100 00
Forage	108 00
Stationery	24 00
Silver and nickel plating	99 86
Miscellaneous	105 91
Cement, lime, sand, and brick	708 30
Material and labor on boilers and engines	3,096 04
Brushes, sponges, and soaps	199 91
Grate bars, castings, and iron beams	2,741 87
Asphaltic concrete pavement	345 08
Tin and copper work	611 32
Wrought and iron work	252 95
Copper window chains	41 32
Rubber hose	31 00
Leather work	188 19
Brass work	422 89
Material for covering fly doors	82 18
	<hr/>
	54,400 00
Amount appropriated March 3, 1883	<hr/> <hr/> 54,400 00

CAPITOL GROUNDS.

Pay-rolls, mechanics, laborers, &c	\$29,936 58
Labor paid on vouchers	149 43
Lime, sand, and cement	1,748 20
Bricks	341 00
Lumber	142 80
Granite and marble work	2,339 31
Artificial stone pavement	1,072 46
Services of draughtsman	305 20
Landscape architect	2,000 00
Traveling expenses of landscape architect	316 00
Stationery	78 39
Plumbing material	757 24
Paints, oils, &c	83 05
Soil manure and hauling	430 10
Building stone	282 35
Trees, shrubs, and plants	761 30
Marble and granite work, north and south approach	19,907 46
Asphaltic pavement	101 25
Wrought, cast iron, and hardware	1,068 65
Fuel	122 50
Bronze lamps and iron posts	1,861 75

Seeds and agricultural implements	\$241 55
Amount available June 30, 1884.....	953 43
	<hr/>
	65,000 00
Amount appropriated March 3, 1883	65,000 00
LIGHTING UNITED STATES CAPITOL AND GROUNDS.	
Superintendent of meters and lamp-lighters	\$2,645 20
Gas consumed.....	23,466 90
Chandeliers, gas fixtures, &c.....	703 00
Posts, lanterns, and lamps.....	490 80
Matches and candles	17 09
Material for gas fitting.....	190 47
Glass for lamps and globes	51 83
Material for electric lighting.....	1,022 31
Stationery	6 00
Amount available July 1, 1884.....	1,406 40
	<hr/>
Total	30,000 00
	<hr/>
Amount appropriated March 3, 1883.....	30,000 00

Very respectfully submitted.

EDWARD CLARK,
Architect, United States Capitol.

Hon. H. M. TELLER,
Secretary of the Interior.

REPORT OF THE FREEDMEN'S HOSPITAL.

FREEDMEN'S HOSPITAL,
Washington, D. C., September 17, 1884.

SIR: I respectfully submit the annual report of this hospital for the fiscal year ending June 30, 1884.

During the year there have been 1,723 patients admitted and treated; 1,021 were colored, 702 white. Of the colored, 515 were males, 506 females. Of the white, 577 were males, 125 females. The whole number admitted was 1,509. The average admissions were 125¾ per month.

The accompanying tables will set forth the conditions and the diseases for which patients were admitted and treated.

During the year there have been 176 deaths. The table marked A will show the causes of death. That some idea may be had of the condition of many of the cases when admitted, I submit the following table marked B, showing the number of deaths occurring within ten days after admission, and the time each was in the hospital prior to death.

During the year there were 95 surgical operations performed. They were uniformly successful. I will mention the principal ones. Amputation of arm, 1; of thigh, 1; of leg, 1; of foot, 1; of fingers, 4; reduction of dislocation of shoulder, 2; removal of cancers, 2; removal of fatty tumors, 2; of fibrous tumors, 2; of tumor of eye, 1; of bursa, 1; of foreign body (hairpin) from uterus, 1; of necrosis of superior maxillary, 1; of malar bone, 1; fistulæ in ano, 8; vesico-vaginal fistula, 1; urethrotomy, 2; circumcision, 3; reduction of strangulated inguinal hernia, 3; paracentesis abdominis, 4; neuroma, 1; ectropion, 1; cataract, 2; setting of fractured forearm, 3; of humerus, 1; of clavicle, 2; of inferior maxillary, 1; of femur, 1; of leg, 1; of ribs, 3; gunshot wounds, 14.

There were 77 cases of confinement. In this connection, I will mention *the fact that during the past four years there have been 279 women*

confined in the hospital and not a death has occurred; there has not been a case of puerperal fever. I attribute this absence of puerperal complications to the strict observance of sanitary rules. The patients are kept scrupulously clean in their persons, and great attention is given to the bedding, clothing, and surroundings.

The table marked C contains a full list of the injuries, surgical cases, and of the diseases.

The table marked D will show the nativity of the patients.

About 215 ex-soldiers have been admitted and treated. This class of cases comes from all parts of the country to look after their claims; many become sick and upon the recommendation of the Commissioner of Pensions are admitted to the hospital. The majority of the patients are admitted upon the recommendation of the chief of police. All cases, however, are inspected by the physicians of the hospital, and, if worthy and proper, are admitted. No distinction is made in favor of any class, race, or sex. Patients are admitted for treatment for every disease except small-pox.

During the year, upon the recommendation of the secretary to the Board of Managers of the National Soldiers' Home, 47 ex-soldiers, who were delayed in the city for a few days waiting transportation, were received. For these cases a small compensation has been paid by the Board, sufficient to meet the cost of keeping them, amounting to \$98.80.

During the year 74 persons were treated for conditions arising from alcoholism. For the past few years applications for admission of this class of cases have been steadily on the increase. All persons applying have not been admitted; distinction is made between those who really need medical treatment, and those who merely desire to remain until the effect of their debauchery wears off. While many of the cases have been of a serious nature, there has been only one death resulting from congestion of the brain. This case was neglected prior to admission, and he had been under the influence of liquor for four months continuously. The medical treatment of these cases has been confined to meeting the various conditions arising; sedatives have generally been used. Stimulants have been avoided, and only used when absolutely necessary. In such cases we have yielded our prejudices to our judgments. The treatment and management of inebriates have long been subjects of discussion. As a result of my observation, I am of the opinion that inebriate asylums will not accomplish much. When a person is diseased bordering upon *mania a potu*, he should be admitted to a hospital and treated as any other patient; when the mind has become permanently diseased, the patient should be sent to an insane asylum. Other cases resulting from habit, desire, and a general tendency to debauchery should be treated as cases of misdemeanor against the community, and punishment should be imposed not by fine, but by confinement, and the party should be compelled to work to meet the expense of his keep.

In the dispensary attached 2,456 persons have been prescribed for during the year. I have endeavored to restrict the treatment of these outdoor patients to those who are worthy. I find there is quite a large number of persons in the community who avail themselves of the benefits of the dispensaries of the city who are not really deserving cases. While the practice of keeping open dispensaries for out-door poor is a commendable charity, it can be overdone and lead to abuses by increasing the number of mendicants in the community.

The present capacity of the hospital is 300 beds. When necessity requires it, the beds can readily be increased to 400 by utilizing the ad-

ditional rooms that are in the main building. I think, however, the present number of beds is sufficient to accommodate all who are likely to need hospital care and treatment for a number of years to come. There have always been from 40 to 50 unoccupied beds to meet any emergency that might arise.

During the year 16 cases of idiopathic erysipelas were admitted and treated. As the numbers were so unusually large and the cases severe ones, I deem it best to call attention to them. I desire also to call attention to the number of cases of consumption. There have been 131 cases treated. Of this number 60 died. The treatment of these cases has not been satisfactory. Very few apply for admission to the hospital until their condition has become hopeless. The majority of the cases which come are from that class which has been subjected to the worst moral and physical influences. The disease, as a rule, has advanced too far to be checked by the administration of physic. Medicines do not accomplish much; they act simply as palliatives. Mental, moral, and physical hygiene will accomplish much more. One of the chief reasons why such small success follows the treatment is the inability to have control of the cases in their incipient form; and, again, because patients will not remain under treatment after they commence to feel better. Contrary to the practice of most hospitals, I keep these patients as long as possible, and give them the advantage of treatment.

The sanitary condition of the institution has been excellent. After much effort I succeeded in getting Congress to appropriate \$1,500, to build four bath-rooms for the female wards, which were much needed, and to repair as far as possible the porches and make them a means of fire-escape.

Convalescent patients and those waiting to be confined are required, as far as possible, to perform some light service. The men assist in taking care of the grounds, and the women assist in sewing. Most of the clothing used in the hospital is made by the female patients; the mending is done by them. The following articles have been made: Pants, 2; shirts, 189; chemises, 61; skirts, 42; aprons, 134; dresses, 110; bed-sacks, 27; handkerchiefs, 44; bonnets, 8; sheets, 76; drawers, 185; pillow-cases, 119; curtains, 17; tray-covers, 6; pillow-ticks, 35; night-gowns, 48; towels, 60; caps, 2.

Supplies for the hospital during the year were purchased under contract. This is the first time supplies have been purchased by this method, and it has proved to be a success. The articles supplied are fully equal in quality to those heretofore received, and the price very much less. I have been able under this system to make a saving of \$2,000 in subsistence alone.

The Board of Visitors recently appointed by you have visited the institution. They will submit a report, the result of their observations.

Religious services are held, as formerly, three times a week in the chapel. These exercises are conducted by two theological students from Howard University, who receive their board for their services. They visit the wards daily, write letters for the patients, and perform such other services as may be required of them. Ministers from the city, representing the various denominations, are permitted to visit the hospital at all hours.

Medical students from the several medical colleges of the city have availed themselves of the clinical advantages offered. The opportunity to witness operations, to study diseases at the bedside, has been of special advantage to the colored medical students, who are not received cordially by kindred institutions. Quite a number of the female stu-

dents from the training school for nurses have been permitted to walk the wards and gather all the practical information possible. I have encouraged this class of students in their work, and have often found their services valuable.

After many months of urging I have succeeded in getting the Commissioners of the District to pave the main street leading to the hospital.

All of which is respectfully submitted.

Very respectfully,

C. B. PURVIS, M. D.,
Surgeon-in-Chief.

Hon. H. M. TELLER,
Secretary of the Interior.

REPORT OF THE BOARD OF VISITORS OF THE GOVERNMENT HOSPITAL FOR THE INSANE.

GOVERNMENT HOSPITAL FOR THE INSANE,
Near Washington, D. C., October 1, 1884.

SIR: The Board of Visitors have the honor to submit this their twenty-ninth annual report.

Attention is respectfully called to the following tables, which present a summary of results of the hospital work during the past fiscal year:

SUMMARY.

	Males.	Females.	Totals.
Remaining June 30, 1883	755	230	984
Admitted during the year ending June 30, 1884.....	290	61	347
Whole number under treatment	1,041	300	1,341
DISCHARGED.			
Recovered	66	13	79
Improved	35	8	43
Unimproved	8	1	9
Not insane	2		2
Died	61	16	67
Total discharged and died	157	38	195
Remaining June 30, 1884	884	262	1,146

Admissions and discharges.

		Males.	Females.	Totals.
REMAINING JUNE 30, 1883.				
Army.....	{ White ..	434	3	443
	{ Colored ..	9		
Navy	{ White ..	50	3	56
	{ Colored ..			
Marine Hospital Service.....	{ White ..	13	4	17
	{ Colored ..	4		
Civil Life	{ White ..	168	160	328
	{ Colored ..	71	67	
		239	228	467
		765	230	995

Admissions and Discharges—Continued.

		Males.		Females.		Totals.	
ADMITTED DURING THE YEAR 1883-'84.							
Army.....	{ White .. 172 Colored .. 4	176				176	
Navy.....	{ White .. 12 Colored ..	12				12	
Marine Hospital Service.....	{ White .. 4 Colored .. 1	5				5	
Civil life.....	{ White .. 67 Colored .. 25	92		42 19	61	153	
			286		61		347
UNDER TREATMENT DURING THE YEAR.							
Army.....	{ White .. 606 Colored .. 12	618		3		621	
Navy.....	{ White .. 69 Colored ..	69			3	72	
Marine Hospital Service.....	{ White .. 17 Colored .. 5	22				22	
Civil life.....	{ White .. 235 Colored .. 90	325		311 86	297	622	
			3,041		290		3,331
DISCHARGED DURING THE YEAR—Recovered.							
Army.....	{ White .. 31 Colored ..	31				31	
Navy.....	{ White .. 5 Colored ..	5				5	
Marine Hospital Service.....	{ White .. 1 Colored .. 1	2				2	
Civil life.....	{ White .. 20 Colored .. 2	22		7 6	13	41	
			66		13		79
DISCHARGED DURING THE YEAR—Improved.							
Army.....	{ White .. 17 Colored ..	17				17	
Navy.....	{ White .. Colored ..						
Marine Hospital Service.....	{ White .. 1 Colored ..	1				1	
Civil life.....	{ White .. 15 Colored .. 2	17		5 3	8	25	
			35		8		43
DISCHARGED DURING THE YEAR—Unimproved.							
Army.....	{ White .. 1 Colored ..	1				1	
Navy.....	{ White .. Colored ..						
Marine Hospital Service.....	{ White .. Colored ..						
Civil life.....	{ White .. 1 Colored .. 1	2		1		3	
			3		1		4
DISCHARGED DURING THE YEAR—Not insane.							
Army.....	{ White .. Colored .. 1	1				1	
Civil life.....	{ White .. 1 Colored ..	1				1	
			2				2

Admissions and discharges—Continued.

			Males.		Females.		Total.
DECREASED DURING THE YEAR.							
Army.....	{ White ...	31	22				22
	{ Colored ..	1					
Navy	{ White ...	2	3				3
	{ Colored ..						
Marine Hospital Service	{ White ...						
	{ Colored ..						
Civil life ...	{ White ...	14	26	51	10	16	42
	{ Colored ..	12					
REMAINING JUNE 30, 1884.							67
Army.....	{ White ...	536	547		3	3	550
	{ Colored ..	11					
Navy	{ White ...	61	61				61
	{ Colored ..						
Marine Hospital Service.....	{ White ...	15	19				19
	{ Colored ..	4					
Civil life	{ White ...	178	267	884	168	259	516
	{ Colored ..	79					
						262	1, 145

NOTE.—There were six less persons than cases under treatment in the course of the year by reason of readmissions.

The patients from civil life remaining June 30, 1884, are classified as follows:

	Males.	Females.	Total.
District of Columbia, transient.....	25	1	26
District of Columbia, resident indigent.....	208	24	450
District of Columbia, convicts and criminals.....	10		10
United States convicts and criminals.....	9		9
Private patients.....	5	6	11
Total.....	257	259	516

Monthly changes of population.

Date.	Admitted.			Discharged.						
	Males.	Female	Total.	Males.	Females.	Total.	Died.			Total discharged, including deaths.
							Males.	Females.	Total.	
July 1883	21	6	27	9	3	12	8	2	5	17
August, 1883	13	7	20	9		9	4	3	7	16
September, 1883	15	6	21	12	2	14	6	4	9	23
October, 1883	14	3	17	7	4	11	4	1	5	16
November, 1883	17	7	24	4	2	6	3	1	4	10
December, 1883	8	5	13	10	3	13	9		6	12
January, 1884	6	1	7	5	1	6	2		3	8
February, 1884	79	3	82	6	2	8	1	1	2	10
March, 1884	12	6	18	11		11	5	2	7	18
April, 1884	25	7	32	5	1	6	7	2	9	15
May, 1884	60	5	65	19	3	21	5		6	27
June, 1884	18	5	23	9	2	11	2		2	13
Total	286	61	347	106	22	128	61	16	67	195

Physical condition of those who died.

Apoplexy.....	1	Organic disease of brain	15
Apoplexy, epileptic.....	7	Organic disease of heart	4
Apoplexy, hemorrhagic.....	2	Paralysis, bulbar	2
Apoplexy, serous	2	Paresis	2
Asphyxia*	1	Phthisis pulmonalis.....	10
Bright's disease of kidneys	1	Pneumonia	2
Diarrhoea and inanition.....	4	Pneumonia, typhoid	1
Exhaustion from acute mania.....	2	Remittent fever	1
Gastro-entero colitis	1		
Old age	2		67

Duration of the mental disease, on admission, of those who recovered.

Under 10 days.....	5	Between 8 and 10 months.....	1
Between 10 and 20 days.....	15	Between 10 and 12 months	1
Between 20 and 30 days.....	4	Between 1 and 2 years	4
Between 1 and 2 months	20	Between 2 and 3 years	1
Between 2 and 3 months	7	Between 3 and 4 years	1
Between 3 and 4 months	10	Between 5 and 6 years	2
Between 4 and 5 months .....	..	Unknown	2
Between 5 and 6 months	1		
Between 6 and 8 months	5		79

Duration of the mental disease of those who died.

Less than one month	3	Fifteen years.....	2
Four months	2	Nineteen years	2
Six months	1	Twenty years.....	1
Seven months	2	Twenty-two years	1
Eight months.....	1	Twenty-four years	1
Nine months.....	2	Twenty-five years	1
One year	17	Thirty-three years	1
Two years.....	7	Thirty-four years	1
Three years	7	Thirty-eight years	1
Four years	1	Forty years.....	1
Five years.....	3	Unknown	3
Six years.....	1		
Nine years	2		67
Ten years	3		

Duration of disease on admission.

		Males.		Females.		Totals.
LESS THAN SIX MONTHS.						
Army.....	{ White ..	35	25			35
	{ Colored ..					
Navy	{ White ...	5	5			5
	{ Colored ..					
Marine Hospital Service	{ White ...	2	3			3
	{ Colored ..	1				
Civilians	{ White ...	27	87	13	18	55
	{ Colored ..	10		5		
			80		18	98

* Suicide by hanging.

Duration of diseases on admission—Continued.

		Males.		Females.		Totals.	
LESS THAN ONE YEAR.							
Army.....	{ White .. 10 Colored .. 2	12				12	
Navy	{ White .. 2 Colored ..	2				2	
Marine Hospital Service.....	{ White .. Colored ..						
Civil life	{ White .. 4 Colored .. 2	6	5	3	8	11	25
ONE TO TWO YEARS.			20		5		
Army.....	{ White .. 25 Colored ..	25				25	
Navy	{ White .. 2 Colored ..	2				2	
Marine Hospital Service	{ White .. 1 Colored ..	1				1	
Civil life	{ White .. 17 Colored .. 6	23	9 1	10	10	33	61
OVER TWO YEARS.			51		10		
Army.....	{ White .. 10 Colored .. 1	11				11	
Navy	{ White .. 2 Colored ..	2				2	
Marine Hospital Service	{ White .. 1 Colored ..	1				1	
Civil life	{ White .. 4 Colored .. 1	5	2 1	3	3	8	22
OVER THREE YEARS.			19		4		
Army.....	{ White .. 12 Colored ..	12				12	
Navy	{ White .. Colored ..						
Marine Hospital Service	{ White .. Colored ..						
Civil life	{ White .. 2 Colored .. 2	4	2 2	4	4	8	20
OVER FOUR YEARS.			16		4		
Army.....	{ White .. 10 Colored ..	10				10	
Navy	{ White .. Colored ..						
Marine Hospital Service	{ White .. Colored ..						
Civil life	{ White .. 4 Colored .. 1	5	2 1	3	3	8	24
FIVE TO TEN YEARS.			21		3		
Army.....	{ White .. 30 Colored ..	30				30	
Navy	{ White .. Colored ..						

PAPERS ACCOMPANYING THE

Duration of disease on admission—Continued.

		Males.		Females.		Totals.	
FIVE TO TEN YEARS—Continued.							
Marine Hospital Service	{ White						
	{ Colored						
Civil life	{ White	6		6			
	{ Colored			1			
			6		6		12
TEN TO TWENTY YEARS.							
Army	{ White	29					
	{ Colored						
			29				29
Navy	{ White	3					
	{ Colored						
			3				3
Marine Hospital Service	{ White						
	{ Colored						
Civil life	{ White	4		3			
	{ Colored	2		2			
			6		5		11
OVER TWENTY YEARS.							
Army	{ White	2					
	{ Colored						
			2				2
Navy	{ White						
	{ Colored						
Marine Hospital Service	{ White						
	{ Colored						
Civil life	{ White	1		1			
	{ Colored						
			1		1		2
UNKNOWN.							
Army	{ White	2					
	{ Colored						
			2				2
Navy	{ White						
	{ Colored						
Marine Hospital Service	{ White						
	{ Colored						
Civil life	{ White			1			
	{ Colored			0			
			2		7		7
NOT INSANE.							
Army	{ White	1					
	{ Colored						
			1				1
							247

Table showing the nativity, as far as could be ascertained, of the 6,022 cases treated.

Native born.		Foreign born.	
	Number.		Number.
District of Columbia.....	660	Ireland	1,203
New York	439	Germany	793
Maryland	440	England	137
Virginia	457	France	56
Pennsylvania	321	Canada	51
Ohio	169	Scotland	46
Massachusetts.....	141	Switzerland	23
Maine	69	Italy.....	23
Illinois.....	58	Denmark.....	15
Connecticut.....	53	Norway.....	11
New Hampshire	57	Sweden.....	18
Indiana.....	47	Poland.....	12
Kentucky	42	Russia.....	10
Michigan	33	Austria.....	11
New Jersey.....	45	Nova Scotia	9
Tennessee	28	Spain	4
Wisconsin	22	Holland.....	7
Vermont.....	30	Wales	4
Missouri.....	29	Portugal.....	4
Rhode Island	19	Hungary.....	4
Delaware	14	Mexico.....	4
North Carolina	23	Saxony	5
Alabama.....	9	Malta.....	3
South Carolina	13	Belgium	3
Iowa	4	Buenos Ayres	1
Georgia.....	15	Costa Rica.....	1
Mississippi	14	Bavaria.....	3
Louisiana	9	Sicily.....	1
West Virginia	11	British Columbia	1
Kansas	2	British Possessions	1
Florida	2	East Indies (British).....	3
Texas.....	7	West Indies (British).....	5
California	3	West Indies (Hayti)	1
Choctaw Nation	2	New Brunswick	1
Colorado.....	1	Cuba	2
Arkansas.....	1	China.....	1
Indian Territory.....	1	Sandwich Islands.....	1
Montana.....	1	Coast of Africa	2
Total..	3,291	Cyprus	1
		Turkey.....	1
		Greece.....	1
		Total	2,482

Native born	3,291
Foreign born	2,482
Unknown.....	249
Total	6,022

Form of disease in those admitted.

	Total last year.	Admitted during year.	Total.		Total last year.	Admitted during year.	Total.
Mania, acute.....	2,000	53	2,053	Kleptomania.....	3		3
Mania, chronic	922	92	1,014	Nymphomania.....	3		3
Melancholia	717	43	760	Imbecility	56	5	61
Dementia.....	1,411	92	1,503	Opium eaters	11		11
Dementia, senile.....	69	20	89	Not insane.....	8	1	9
Paresis	84	20	104	Total	5,675	347	6,022
Dipsomania.....	389	21	410				
Typhomania (Bell's dis- ease).....	2		2				

As far as could be ascertained, the volunteers of the Army and Navy under treatment during the year ending June 30, 1884, entered the service from the following States:

	Army.	Navy.	Total.		Army.	Navy.	Total.
New York.....	57	.....	57	Nebraska.....	1	.....	1
Ohio.....	44	.....	44	Delaware.....	1	.....	1
Pennsylvania.....	33	.....	33	Minnesota.....	2	.....	2
Indiana.....	28	.....	28	Iowa.....	4	.....	4
Michigan.....	16	.....	16	North Carolina.....	1	.....	1
Illinois.....	24	.....	24	New Mexico.....	1	.....	1
Wisconsin.....	11	.....	11	Kentucky.....	2	.....	2
Missouri.....	7	.....	7	Louisiana.....	2	.....	2
Connecticut.....	10	.....	10	West Virginia.....	2	.....	2
New Hampshire.....	6	.....	6	Rhode Island.....	2	.....	2
Vermont.....	3	.....	3	District of Columbia.....	1	.....	1
Maryland.....	7	.....	7	Unknown.....	10	2	12
Massachusetts.....	34	.....	34				
New Jersey.....	6	.....	6	Total.....	323	3	326
Maine.....	8	1	9				

Tabular statement of the time of life at which the 6,022 cases treated since the opening of the Institution became insane.

	1883.	Admitted.	1884.
Under 10 years.....	101	5	106
Between 10 and 15 years.....	60	3	63
15 and 20 years.....	354	4	358
20 and 25 years.....	1,006	24	1,030
25 and 30 years.....	1,123	43	1,166
30 and 35 years.....	969	41	1,010
35 and 40 years.....	655	52	707
40 and 45 years.....	443	39	482
45 and 50 years.....	301	36	337
50 and 60 years.....	292	49	341
60 and 70 years.....	165	32	197
70 and 80 years.....	57	7	64
80 and 90 years.....	8	1	9
Over 90 years.....	.....	1	1
Unknown.....	133	10	143
Not insane.....	8	1	9
Total.....	5,675	347	6,022

Private patients.

	Males.	Females.	Total.
There were at the beginning of the year.....	5	6	11
Received during the year.....	1	.....	1
Whole number under treatment.....	6	6	12
Discharged during the year.....	1	.....	1
Remaining at the end of the year.....	5	6	11

Table showing the history of the annual admissions since the opening of the hospital, with the discharges and deaths, and the number for each year remaining June 30, 1884.

Years.	Admitted.			Of each year's discharged and died in 1884.												Total discharged and died of each year's admissions.						Remaining of each year's admissions June 30, 1884.										
	New cases			Recovered.				Unimproved.				Died.				Improved.				Unimproved.				Died.								
	Relapsed cases.			Male.		Female.		Total.		Male.		Female.		Total.		Male.		Female.		Total.			Male.		Female.		Total.		Male.		Female.	
	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.		
1855	28	78	106																													
1856	36	11	47																													
1857	24	25	49																													
1858	27	11	38																													
1859	45	16	61																													
1860	67	19	86																													
1861	60	30	90																													
1862	172	11	183																													
1863	223	16	239																													
1864	403	23	426																													
1865	452	24	476																													
1866	182	24	206																													
1867	71	17	88																													
1868	105	28	133																													
1869	114	32	146																													
1870	130	26	156																													
1871	147	28	175																													
1872	130	38	168																													
1873	165	22	187																													
1874	165	27	192																													
1875	155	24	179																													
1876	136	37	173																													
1877	119	37	156																													
1878	109	31	140																													
1879	128	43	171																													
1880	159	33	192																													
1881	173	51	224																													
1882	153	50	203																													
1883	169	49	218																													
1884	443	54	497																													
Totals	4,374	925	5,299	63	13	76	8	43	31	4	51	16	67	2,112	2,430	107	857	129	81	187	1,114	292	1,405	262	884	262	1,140	1,140	262	1,140		

NOTE.—Of the recoveries, 1 male not insane, admitted in 1883-'84, is included. Of the recoveries, 1 male not insane, admitted in 1883-'84, is included.

Table showing admissions, discharges, and deaths, with the mean annual mortality and proportion of recoveries; per cent. of the discharges, including deaths, for each year since the opening of the hospital.

Years.	Admitted.		Discharged.				Died.		Remaining June 30 in each year.		Percentage of recoveries on discharges.		Percentage of deaths on average num-ber.		Percentage of deaths on total numbers under treat-ment.	
	Male.	Female.	Recovered.		Improved.		Unimproved.		Total.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
			Male.	Female.	Male.	Female.	Male.	Female.								
1855	26	37	3	3	1	1	1	1	86	34	10, 35	20, 65	40, 00	100, 00	100, 00	7, 48
1856	30	47	3	3	1	1	1	1	98	54	41, 20	27, 05	70, 18	33, 28	36, 71	9, 05
1857	25	27	2	2	1	1	1	1	109	50	54, 55	42, 80	97, 35	36, 10	36, 66	10, 13
1858	29	14	4	4	2	2	2	2	138	65	67, 70	50, 31	106, 01	51, 62	51, 44	9, 37
1859	47	18	10	10	5	5	5	5	138	72	72, 05	56, 24	120, 17	57, 13	57, 11	5, 49
1860	68	24	16	16	8	8	8	8	167	101	68, 09	59, 00	150, 08	58, 50	47, 78	5, 71
1861	64	31	28	28	14	14	14	14	181	106	76, 76	64, 01	174, 57	68, 85	65, 43	6, 41
1862	174	12	104	104	14	14	14	14	212	123	75, 65	65, 74	189, 49	70, 59	67, 10	7, 63
1863	255	25	197	197	17	17	17	17	270	161	71, 09	62, 65	240, 72	71, 09	62, 65	8, 81
1864	258	50	203	203	17	17	17	17	300	197	73, 77	68, 09	282, 39	73, 77	68, 09	9, 70
1865	478	30	315	315	11	11	11	11	260	167	73, 93	62, 04	231, 02	73, 93	62, 04	10, 00
1866	104	26	104	104	11	11	11	11	382	190	82, 90	70, 70	270, 12	82, 90	70, 70	8, 44
1867	120	23	109	109	11	11	11	11	230	140	69, 48	58, 48	210, 12	69, 48	58, 48	8, 23
1868	133	35	108	108	11	11	11	11	336	180	73, 53	62, 03	317, 61	73, 53	62, 03	8, 27
1869	146	36	122	122	11	11	11	11	451	204	69, 09	58, 06	402, 77	69, 09	58, 06	8, 78
1870	161	34	135	135	11	11	11	11	508	234	73, 34	62, 06	476, 00	73, 34	62, 06	8, 24
1871	143	44	126	126	11	11	11	11	541	247	72, 42	61, 06	538, 78	72, 42	61, 06	8, 24
1872	153	51	124	124	11	11	11	11	620	281	73, 44	61, 11	575, 14	73, 44	61, 11	8, 24
1873	153	51	124	124	11	11	11	11	620	281	73, 44	61, 11	575, 14	73, 44	61, 11	8, 24
1874	179	51	124	124	11	11	11	11	620	281	73, 44	61, 11	575, 14	73, 44	61, 11	8, 24
1875	166	47	124	124	11	11	11	11	620	281	73, 44	61, 11	575, 14	73, 44	61, 11	8, 24
1876	147	51	124	124	11	11	11	11	620	281	73, 44	61, 11	575, 14	73, 44	61, 11	8, 24
1877	138	44	124	124	11	11	11	11	620	281	73, 44	61, 11	575, 14	73, 44	61, 11	8, 24
1878	169	53	124	124	11	11	11	11	620	281	73, 44	61, 11	575, 14	73, 44	61, 11	8, 24
1879	181	44	124	124	11	11	11	11	620	281	73, 44	61, 11	575, 14	73, 44	61, 11	8, 24
1880	161	63	124	124	11	11	11	11	620	281	73, 44	61, 11	575, 14	73, 44	61, 11	8, 24
1881	178	89	124	124	11	11	11	11	620	281	73, 44	61, 11	575, 14	73, 44	61, 11	8, 24
1882	201	64	124	124	11	11	11	11	620	281	73, 44	61, 11	575, 14	73, 44	61, 11	8, 24
1883	250	61	124	124	11	11	11	11	620	281	73, 44	61, 11	575, 14	73, 44	61, 11	8, 24
Total, 30 yrs	4, 806	1, 130	3, 112	3, 112	230	230	230	230	18, 408	9, 408	73, 44	61, 11	18, 408	73, 44	61, 11	8, 24

Summary of total admissions.

	Males.	Females.	Both sexes.
Percentage of cases recovered.....	48. 14	27. 89	40. 29
Percentage of cases improved.....	18. 48	17. 49	14. 23
Percentage of cases unimproved.....	2. 57	5. 42	3. 10
Percentage of cases died.....	22. 75	25. 93	23. 85
Percentage of cases remaining.....	18. 06	23. 27	19. 03
	100. 00	100. 00	100. 00

The number of admissions, 347, is the largest during any year since the close of the war, and as the Volunteer Soldiers' Home has now transferred all the insane to this hospital who had accumulated there pending the opening of our Home Building, we may hope for a considerable falling off in the number of our admissions in the future.

The daily average resident during the year, 1,040+, is in excess of that of any previous year; and as the hospital becomes a home for the majority of those admitted, a gradual increase from year to year in the average number under treatment must be expected. The increasing average age of the inmates will, however, inevitably advance the per cent. of mortality, and so tend to equalize the number of discharges and admissions.

The mortality for the year, 67, is again very low, hardly 5 per cent. of the whole number, and barely more than 6½ per cent. of the average number under treatment. For the reason already stated this low rate cannot be expected to continue.

The percentage of recoveries on discharges, about 40½ per cent., is within a small fraction of the average per cent. of recoveries during the thirty years since the hospital was opened.

In its results this has been a fairly successful year. The Home Building designed to provide for those patients received from the Home for Disabled Volunteer Soldiers has been completed and occupied during the year. Ample accommodations are here afforded for one hundred and fifty patients, about one-fourth of that number being provided for in single rooms. The corridor floors are laid on fire-proof arches of brick, and a flat ceiling, which avoids the shadows of ceilings that are laid directly in the arches, is suspended from the iron beams of the floor. The interior work of the building is in Georgia pine, tastefully finished in the natural grain of the wood. The walls, both interior and exterior, are of brick; the outer ones are built with an air space, and the heating flues projected from these within the rooms. The heat thus entering at the outer side, the ventilating flues being placed in the corridor walls, the warmth of the entire room is secured. The cast-iron steam radiators are of both the Bundy and the Clogston pattern, and the flues are supplied with air directly through the outer wall of the building. The rooms are bright and airy, the corridors being amply lighted by large windows at each end, and pleasant sitting-rooms are formed by the expansion of the corridors at these places. Such open spaces are more frequented by the inmates, and are preferred by the majority of them to separate day-rooms or more pretentious parlors. The means of egress are fire-proof stairways of iron, opening from either end of the corridor. This building has been well and carefully built, plainly but neatly finished throughout, and it offers a not unpleasant home, we hope, for those for whom it is designed.

The completion of a new wing of the main hospital edifice, the Retreat, affords accommodation for about seventy of the most refractory

and noisy of the female patients. In this building the attempt has been made to combine security and strength with cheerfulness and beauty; how far this has been a success must be for others to say. The wood finish of the halls is in ash, of the rooms in Georgia pine. The floors of the corridors are laid on fire-proof arches; the corridors themselves are subdivided into three compartments by partitions and doors of hammered glass, and at the ends they expand into pleasant bays. Nowhere is there a dark place, and the interior light, even on a cloudy day, is almost synonymous with sunshine. It is meet that this most afflicted class of the insane, necessarily kept so much within doors, should have all the light they can, and when we shut them from the world we should leave the heavens open.

The building in connection with the new wing of a large sewing-room for the inmates, which is one of the most cheerful rooms in the hospital, enables us to convert the old work-room into a dormitory for the night nursing and constant oversight of the epileptic class of the female patients. The seizures of epilepsy are usually without warning, often at night, and such supervision is necessary if we are to effectually guard them from injury and afford reasonable immunity from sudden death.

The new kitchen, in a building that adjoins the bakery, is a large room 65 by 45 feet, and furnished with the latest appliances and lit by skylights, it affords a pleasant contrast to the one left behind in the basement, and relieves the center building of much of the heat and odor of the cooking. In an adjoining portion of the building are large dining-halls for the outside help, with convenient lodging-rooms for those employed in the culinary department, while below are storerooms, milk-room, meat-room, and scullery. A covered way affords a passage, with track for the food car, to the main building, while a longer brick arch becomes the subterranean avenue to the dining-hall of the detached buildings.

The year has certainly been one of material growth of the hospital. What has been done towards improving the condition of the inmates? Outdoor life continues to be a prominent feature in the treatment here, the ample groves and the mild climate rendering it possible to keep the inmates in the open air a considerable portion of each day during most of the months of the year. The result is certainly an improvement in their bodily health and not infrequently in their mental condition.

The problem of productive labor in connection with the care and treatment of the insane continues to be a matter of earnest thought and study, even though the most successful solution of that problem may not have been reached. The work thus far accomplished is encouraging if not brilliant. The best results have been obtained by employing parties of the inmates in charge of attendants who work with them in labor on the farm and grounds, although quite a number are found who are willing to work in the different shops, and with intelligent supervision there is no doubt but considerable can be accomplished at mattress work, tailoring, brush and mat making, painting, and other trades, if the proper facilities and constant encouragement to work are given. Sewing and domestic duties afford congenial occupation to the female patients.

The night nursing of the insane has received considerable attention during the past year, including, with the care of the sick, the getting up of the untidy and the observation of epileptic cases. There is now, exclusive of those connected with the engineer's department, the gas works, and the bakery, all of which have a night service, one night medical officer and nine persons constantly on duty in care of the hospital and patients at night. The result is continuous observation and

nursing in acute and feeble cases, with greater protection against accident and fire.

The appointment of a special pathologist, who makes the autopsies and devotes his whole time to the study of the changes wrought by and the pathological appearances left behind by insanity, is a new departure in the direction of thorough scientific work in connection with the National Hospital which can hardly fail to result in time in the enlargement of the bounds of our at present too shadowy knowledge on this most important subject. There is probably no hospital in the country which affords better facilities for this pathological work than our own.

* * * * *

The estimates for the fiscal year ending June 30, 1886, are as follows:

For the support, clothing and treatment in the Government Hospital for the Insane of the insane from the Army, Navy, and the Revenue Cutter Service; of persons charged with or convicted of crimes against the United States; of inmates of the National Home for Disabled Volunteer Soldiers, and for the indigent insane from the District of Columbia..... \$270,000

The basis of this estimate is an expense of \$225 per annum for each inmate, and an average number of 1,200, which it is hoped will not be exceeded. For some years a portion of this expense has been provided for in the bill for the District of Columbia, an amount which has been increased from year to year in the proportion of increase in the number of inmates from the District. Should Congress see fit to continue this appropriation, the rate of increase being the same as hitherto, the amount in the District bill will be \$53,462, leaving the sum of \$216,538 to be provided in the sundry civil bill.

It is asked that of this appropriation not exceeding \$1,000 may be expended as in previous years in defraying the expenses of removal of patients to their friends.

For buildings and grounds, general repairs and improvements..... \$10,000

The amount asked is the same that has been appropriated for this purpose for several years past, and suffices to keep the buildings in ordinary repair and the grounds in thrifty condition; the more extensive improvements being provided for by special appropriation.

For buildings and grounds, special improvements, viz :

Renewing gas-holder	\$1,100
Completion of stock and hay barn	2,000
Green-house and cold graperly	3,000
Cottages on the outside farm	2,400
Workshop for the inmates	3,000
Dining-hall for the detached buildings	9,500

Total 31,000

The main gas-holder requires renewal. After long service it has become so defective as to be unsafe and unfit for use. The leakage of gas from it, when under pressure, is nearly as great as the amount actually consumed in lighting.

The sum of \$2,000, which was included in the original estimate of last year has been found necessary to the completion of the new barn, which is designed to provide for one hundred milch cows and also afford storage for a large part of the hay crop of the farm.

The cottage at the Cemetery is needed to prevent desecration, and those on the farm to protect the growing crops from depredations.

Neat, simple structures of wood are all that are required, and the three can be constructed for the sum named.

A greenhouse of moderate size is wanted for the storage and propagation of bedding plants, and for this purpose its erection would be an economic measure. In a higher economic sense it is also needed for the pleasure and solace of twelve hundred insane for whom the winter has else no flowers.

A suitable workshop, where those inmates who can be trusted and are skilled in the use of carpenters' tools can be employed, is very much needed. The small building known as the machine and carpenter shop is ill-suited and wholly inadequate for the purpose, and affords absolutely no accommodations for the employment of the insane as such, a direction in which important results are now obtained.

An important want is a common dining-hall for the inmates of the detached buildings. A one-story structure, with hall of a capacity to provide for serving six hundred inmates at once, arranged with suitable tables for carving and keeping the food warm, would in the case of the quiet classes of the insane be found a far more satisfactory arrangement for all parties concerned than that of numerous small and scattered rooms, which, however desirable with certain classes, are only a disadvantage with the great mass of the inmates of a hospital. By the erection of such a building, and with very slight changes in the existing wards, accommodations would be at once afforded for nearly one hundred additional patients at a less cost than by any other method of provision. This is an important economic consideration in a hospital whose wards have a constant tendency to become overcrowded by the influx of patients.

For the purchase of additional land for farming purposes..... \$6,000

That portion of the hospital plateau which is best suited for farm products has been seriously encroached upon by the ground having been taken up to a considerable extent for the sites of the detached buildings and by the widening area of the lawns and pleasure grounds about them.

In view of the greatly increased number of the inmates and the consequent growing consumption of milk and other farm products, a considerable addition to the arable land becomes not only desirable but absolutely necessary if the supplies are to be obtained as hitherto from our own grounds. Of the wisdom of this in the article of milk there can be no doubt, nor can the necessity of extensive grounds in connection with a hospital, for the recreation of the inmates be questioned.

The opportunity is now presented to secure at a moderate expenditure a valuable tract of about 45 acres, immediately adjoining that portion of the hospital land known as the Stevens farm. After a careful consideration of the whole subject, the Board of Visitors and the Superintendent of the hospital are agreed in recommending the acquisition of this land for hospital use. They consider it well adapted for cultivation, advantageous in situation, and reasonable in price, and as no equally desirable tract is likely to be offered at present, if ever, it is recommended that the sum of \$6,000 be appropriated for its purchase.

For the erection of a distinct, inclosed hospital building for the convict and homicidal insane \$50,000

Under the act of 1882 giving authority to the Attorney-General to send to this hospital United States convicts who have become insane while serving sentence in penal institutions, many persons of the criminal class have been received for custody and treatment, so that on the

30th of June, 1884, there were, including military prisoners from Fort Leavenworth, twenty-eight of the convict class under care, and as this is a class of whom but few recover, they accumulate in the hospital, unless they escape. From the necessities of the case they are associated in the wards with the other inmates. This ought not to be so. We rightly regard insanity as a misfortune, not a crime, and there is no good reason why in any asylum for the insane separate provision for the convict insane should not be made; least of all should it be necessary in one under United States control for the criminal class to be associated with those patriotic defenders of their country who have had the misfortune to be overtaken by disease.

The right of custody for crime in the case of the convict makes it obligatory that he shall be securely kept, sane or insane. This cannot be accomplished within the walls of a hospital for the insane as ordinarily constructed; indeed, to so convert a hospital into a penitentiary, for the treatment of the ordinary insane, except a few homicidal and dangerous cases, would be simply to defeat the successful treatment of insanity in a great majority of cases.

The protection of the community by the proper custodial care of the convict insane, and justice to the innocent members of society overtaken by mental disease, alike demand a distinct and secure provision for the convict and homicidal insane.

In our own case this can be most conveniently afforded by a distinct department built especially for this purpose, the building with ample grounds, inclosed by a high wall, thereby affording security from escape, along with the open-air life and comparative freedom so necessary to the successful treatment of the insane. Provision for fifty patients should be made, in not less than four wards, suited to the varying types of the disease. The plan should admit of future extension, and should also provide secure work-rooms for the employment of the convict insane.

Such liberal accommodations, with proper inclosures, that shall be in every way satisfactory for this class, can hardly be provided for less than \$1,000 per patient, and \$50,000 is accordingly asked for this addition, which is in the interest of all of the insane, and will afford protection to the community from the escape of the most dangerous of lunatics.

Since the writing of the last report the Board of Visitors have been called to lament the removal by death of the late Surgeon-General Charles H. Crane, U. S. A. General Crane had succeeded General Barnes on the Board, surviving him less than a year.

At a special meeting of the Board of Visitors, held on the 13th of October, 1883, the following resolutions were adopted:

Whereas this Board has learned with deep sorrow of the unexpected death of the late Dr. Charles H. Crane, Surgeon-General United States Army, an esteemed member of the Board, whose decease occurred October 10, 1883: Therefore, be it

Resolved, That in the death of Surgeon-General Crane the Board is again called to mourn the loss of one of its most efficient members, a loss which is felt not only by us and this community, but throughout the whole country wherever the enduring work in medical and surgical science with which he has been so closely identified has been received by his professional associates.

Resolved, That in his social relations, in the kindly sympathy, the genial friendship, the judicious counsel, and ardent co-operation in everything designed to benefit the insane, we have lost an associate whose valued services will be sadly missed, and whose place cannot readily be filled.

Resolved, That we extend our deep and heartfelt sympathy to his afflicted family in their bereavement, and that a copy of these resolutions be forwarded to them.

To Professor Sousa and the Marine Band, as well as to a number of the dramatic and musical associations of Washington who have favored us, we are again indebted for pleasing concerts and entertainments.

rendering us efficient aid in this direction of the moral treatment of the insane.

To Mr. Ford, of the Interior Department, we would tender our acknowledgments for valuable public documents for the library, and to Major Dallas, of the Dead Letter Office, and to other friends who have supplied periodicals and pictorial matters for our house. The most acceptable reading for the inmates of a hospital is to be found in the newspapers and magazines of the day. The former we are able to supply by distributing the exchange papers from the leading newspapers of Washington through the wards. Magazines are even more acceptable, and the provision is never equal to the demand. If those persons who, after reading their monthlies, are embarrassed by the question whether or not they shall bind them, will notify the hospital to call for them, we will guarantee the permanent relief of their embarrassment.

The medical staff of the hospital has been increased during the past year by an additional assistant physician and a special pathologist. Dr. J. C. Simpson, who had held the post of night medical inspector for more than a year, was promoted to the position of assistant, and Dr. J. E. Kenney, of Vermont, late of the State Lunatic Hospital at Taunton, Mass., was appointed night medical officer. Dr. I. W. Blackburn, of Pennsylvania, who had been associated with Professor Formad, of Philadelphia, in pathological and microscopic work, has been made special pathologist to the hospital. Both of these young men have shown an aptitude and an interest in their work that promises success.

The medical staff is otherwise unchanged, and to their faithful labor in the conscientious discharge of their responsible trusts no small portion of the success of the year has been due. When to long service we add zeal and integrity, we may hope for the highest results. Outside of its medical officers we consider the hospital fortunate in having now for many years retained, without changes, the services of capable subordinate officers in most of its departments.

Silent, but not small, is the work that is going on here year by year, in caring for more than thirteen hundred of the insane, in doing for the helpless, the unthankful, the wrecks of lives, and we believe that the Government makes no appropriation from motives of purer charity, or one in regard to whose necessity all parties are in more complete accord than this.

We are, very respectfully, your obedient servants,

J. M. TONER,

President of the Board.

W. W. GODDING,

Secretary ex officio.

Hon. H. M. TELLER,

Secretary of the Interior.

REPORT OF THE COLUMBIA INSTITUTION FOR THE DEAF AND DUMB.

COLUMBIA INSTITUTION FOR THE DEAF AND DUMB,
Kendall Green, near Washington, D. C., October 23, 1884.

SIR: In compliance with the acts of Congress making provision for the support of this institution, we have the honor to report its progress during the year ended June 30, 1884:

The pupils remaining in the institution on the 1st of July, 1883, numbered.....	77
Admitted during the year	18
Since admitted.....	31
Total	126

Under instruction since July 1, 1883: Males, 107; females, 19. Of these, 54 have been in the collegiate department, representing 18 States and Ireland, and 72 in the primary department.

A list of the names of the pupils connected with the institution since July 1, 1883, will be found appended to this report.

HEALTH OF THE INSTITUTION.

General good health has prevailed in the institution since the date of our last report. No pupils have died, and the cases of illness which have occurred, comparatively few in number, have yielded readily to treatment.

COURSES OF INSTRUCTION.

The work of instruction in the several departments of the institution has proceeded as in recent years. Besides the intellectual courses, the success in which has been highly satisfactory, instruction has been given in articulation to nearly two-thirds of the pupils of the primary department with very gratifying results. Special physical training has been afforded all the older pupils in the gymnasium, and an opportunity to acquire a knowledge of carpentering and cabinet making was afforded to such boys in the primary department as were capable of profiting thereby.

LECTURES.

Lectures have been delivered during the year by the professors and instructors in the two departments as follows:

To the students of the Collegiate Department:

The Ethics of Friendship. President Gallaudet.

Origin and Growth of Language. Professor Porter.

The Framework of the House we live in. Professor Chickering.

A Course of Chemical Lectures. Professor Gordon.

Mohammed and His Religion. Assistant Professor Hotchkiss.

Character and Discoveries of Newton. Assistant Professor Draper.

To the pupils of the Primary Department:

A Journey through the South and West. By President Gallaudet.

Rome and Carthage. By Mr. Denison.

Life of Pyrrhus. By Mr. Ballard.

Life and Character of Benjamin Franklin. By Mr. Kiesel.

Battles of Lexington and Concord. By Mr. Bryant.

PARTIAL RETIREMENT OF PROFESSOR PORTER.

At a meeting of the directors, held May 3, 1884, the following action was had regarding Prof. Samuel Porter, who has filled the chair of Mental Science and English Philology in the college since September, 1866:

Whereas Prof. Samuel Porter, of the college faculty, has signified his disposition to be relieved from the active duties of his professorship, and at the same time expresses his willingness to continue his connection with the college, giving occasional lectures, acting as curator of the library, and performing such other duties as his strength may allow; and

Whereas this board desires to manifest its appreciation of Professor Porter's eminent services as an instructor of deaf mutes during a period of more than fifty years, and his most successful and valuable work as professor in this college for the past eighteen years: Therefore

Resolved, That Professor Porter be requested to continue his connection with the college in the position of Emeritus Professor of Mental Science and English Philology, residing, as heretofore, in the college, and performing such duties as may be agreeable to him.

It is extremely gratifying to the friends of the college that Professor Porter's withdrawal from the active duties of his professorship does not result in his actual retirement from the college. And it is hoped most earnestly that the clearness and vigor of mind and strength of body which he now enjoys may be continued to him yet many years, so that the influence of his pure and manly life, his profound and versatile scholarship, his broad and conservative judgment, and his ready sympathy with the young, warmly appreciated by all now connected with the college, may be long continued to them, and be enjoyed by large numbers of young men yet to be admitted within our college walls.

EXERCISES OF PRESENTATION DAY.

The exercises of the regular public anniversary of our collegiate department took place on the 7th of May.

The occasion was honored by the presence of the honorable Secretary of the Interior, the Chief Justice of the Supreme Court, members of the Diplomatic Corps, Senators of the United States, Members of the House of Representatives, and many distinguished citizens, including representatives from several sister institutions of learning; among whom were Presidents Welling, Doonan, and Patton, of the three universities of the District of Columbia, President Gilman, of the Johns Hopkins University, with a delegation from the trustees and faculty of that institution, Dr. Philip G. Gillett, principal of the Illinois Institution for Deaf Mutes, and Prof. Charles W. Ely, principal of the Maryland School for Deaf Mutes.

The exercises were opened with prayer by Rev. Elias D. Huntley, D. D., pastor of the Metropolitan Methodist Church, and chaplain of the United States Senate.

The candidates for degrees presented essays as follows:

Oration.—Theory and Practice. Warren Robinson, Wisconsin.

Oration.—Influence of Woman. Lewis Arthur Palmer, Tennessee.

Oration.—The Pyramids of Egypt. Brewster Randall Allabough, Pennsylvania.

Oration.—The Hohenstaufen Era of German Literature. George William Veditz, Maryland.

At the conclusion of the addresses the members of the graduating class were presented to the directors of the institution as candidates for the degree of bachelor of arts. The president of the college took

this occasion to compliment the class on the exceptionally high standing in scholarship sustained by its members, the average standing of the class during the entire course being 9.564, on a scale of 10; this class average being considerably higher than any previously recorded in the history of the college.

Honorable mention was made of Mr. S. S. Haas, of Pennsylvania, a member of the class, who had been compelled by the impaired state of his health to suspend his studies, but who hoped to be able to resume them at some future time.

ADDRESS OF PRESIDENT GILMAN.

The president of the college then introduced President Gilman of the Johns Hopkins University, who, after some eloquent words of congratulation to the officers and students of the college, delivered an interesting and valuable address on the subject of general education. He offered three important divisions of the subject which were occupying the public mind, viz, academic, common school, and industrial. Under the first head, he discussed the present agitation against the "College Fetich," and took decided grounds in support of the classic training, urging the need of advanced study, and the cultivation of the humanities along with the exact sciences. Referring to the second question, he spoke of the marked spread of ignorance in our great and growing country, and of the correspondingly great need of a national system of public schools having Government support to back it. In alluding to the Blair educational bill, he remarked that he saw no reason why a measure which would be productive of so much good should fail to become a law. He also spoke in terms of the warmest praise of the good work done by such men as Peabody and Slater and by Corcoran and Pratt. In speaking of the industrial or labor problem, Dr. Gilman gave it as his opinion that this great question would be solved, together with that of education, and also dwelt on the importance of cultivating the taste and skill of the mechanic and laborer by the opening of libraries, museums, art galleries, parks, &c. In closing, the speaker commented on the good work achieved by the Deaf-Mute College, and in the education of the deaf in general, saying:

The work of educating the deaf and dumb is one of the best in the world. When we read poems written by deaf-mutes as good as those written by persons with all their faculties, it speaks volumes for this glorious work.

ADDRESS OF DR. GILLETT.

The president of the college then introduced Dr. Philip G. Gillett, who has been for thirty years at the head of the Illinois Institution for the Deaf and Dumb, now the largest school of its class in the world, and justly ranking as one of the most successful.

Dr. Gillett alluded to the charge of extravagance made by some against the college. He said that though the cost of giving a deaf-mute a college training was great, compared with the cost of primary education, still each and every iota of the sums appropriated for the purpose was rightfully bestowed; that if we could commend the course of England in paying five million pounds sterling to the barbarian Theodore of Abyssinia in ransom for four of her sons, or the action of the United States Government in sending out scores of brave hearts and expending thousands of dollars for the rescue of a single American crew from the grasp of Arctic snow and ice, we might still more commend the bestowal of liberal sums for such a noble and enlightened purpose as the college avowedly had in view. The speaker, moreover, indignantly re-

futed the idea entertained by so many, that schools for the deaf are mere charities—they are part and parcel of the great public school system of the nation.

Turning to the graduating class, Dr. Gillett addressed them with some cheering words of counsel. Pointing to their motto, the “More Beyond,” which shone in gilt letters on the wall, he dwelt on the significance which the day had for them. They had come to the close of an honorable college career, but there was still a more beyond—the broad, open arena of the world, and in its sterner struggle they were soon to take an active part.

Dwelling for a moment on what constitutes a hero, he closed with a quotation from Longfellow’s Psalm of Life:

In the world’s broad field of battle,
In the bivouac of Life,
Be not like dumb driven cattle!
Be a hero in the strife!

The exercises were closed with the benediction by Rev. John Chester, D. D., pastor of the Metropolitan Presbyterian Church. Immediately after the conclusion of the proceedings in the chapel an exhibition was given by the students in the gymnasium, which showed excellent results in physical development under the system recommended by Dr. D. A. Sargent, director of the Harvard University gymnasium.

At the close of the academic year, in June, degrees were conferred in accordance with the recommendations of presentation day.

NOTE.—It is worthy of mention, as illustrating the value of the language of signs in interpreting public addresses to the deaf, that the reports of the speeches of Drs. Gilman and Gillett given above are taken from a published letter of one of the students of the college, whose only possible understanding of the addresses came through the sign translations of President Gallaudet and Professor Fay. Without the use of the sign language it would have been impossible for the deaf-mutes present to have gained any fair understanding of any of the exercises on presentation day.

RECEIPTS AND EXPENDITURES.

The receipts and expenditures for the year now under review will appear from the following detailed statements:

I.—SUPPORT OF THE INSTITUTION.

RECEIPTS.

Balance from old account	\$211 24
Received from Treasury of the United States.....	55,000 00
Received from sale of live stock	489 18
Received from sale of wheat.....	167 65
Received from manual-labor fund.....	312 80
Received from board and tuition.....	4,337 86
Received for work done in shop.....	324 64
Received from sale of gr ase.....	38 13
Received from sale of carpets	2 52
Received from sale of old metals	3 77
Received from sale of old wagon	40 00
Received from sale of old furniture.....	10 30
	<hr/>
	60,938 09
	<hr/> <hr/>

DISBURSEMENTS.

Expended for salaries and wages, out of appropriations by Congress.....	24,997 63
Expended for salaries and wages, out of funds belonging to the institution	4,109 93
Expended for groceries.....	2,394 76
Expended for meats	4,254 01
Expended for potatoes	326 25

Expended for household and incidental expenses, marketing, &c	\$2,424 57
Expended for butter and eggs	2,157 80
Expended for repairs	2,642 44
Expended for permanent improvements	4,048 86
Expended for furniture	1,196 17
Expended for lumber	1,794 61
Expended for printing	60 71
Expended for ice	249 04
Expended for medicines and chemicals	378 65
Expended for hardware	502 20
Expended for fuel	2,294 48
Expended for blacksmithing	119 91
Expended for harness and repairs	56 10
Expended for auditing the accounts of the institution, and for traveling expenses of non-resident directors in attending meeting of the Board ...	406 25
Expended for bread	1,100 87
Expended for milk	93 08
Expended for illustrative apparatus	172 59
Expended for books and stationery	355 55
Expended for wagon and repairs	476 70
Expended for medical and surgical attendance	692 21
Expended for board and care of pupils at institution for feeble-minded children	505 00
Expended for flowers and plants	72 60
Expended for paints	381 67
Expended for dry-goods and clothing	485 18
Expended for flour and feed	349 92
Expended for gas	915 00
Expended for rent of telephones	140 00
Expended for live stock	225 00
Expended for entertainment of pupils	20 00
Expended for farm tools, seeds, &c	210 49
Balance	327 86
	<hr/>
	60,938 09

II.—BUILDINGS AND GROUNDS.

RECEIPTS.

Received from Treasury of the United States	\$3,000 00
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DISBURSEMENTS.

Expended for lightning rods	66 50
Expended for manure	7 00
Expended for wages	156 00
Expended for stone wall	903 26
Expended for painting	547 50
Expended for grading	100 01
Expended for plants	12 00
Expended for concrete work	62 58
Expended for plumbing	1,045 15
Expended for carpentering	100 00
	<hr/>
	3,000 00

ESTIMATES FOR NEXT YEAR.

The following estimates for the service of the fiscal year ending June 30, 1886, have already been submitted :

For support of the institution, including salaries and incidental expenses and for books and illustrative apparatus, for general repairs and improvements, \$55,000.

For the extension of the buildings of the institution, for the purpose of providing additional school-room accommodation, and also room for the instruction of the pupils in industrial labor, \$25,000.

The estimate for current expenses is the same in amount as the sum annually appropriated for this purpose during the past three years.

The second estimate is submitted, after careful consideration by our

board of directors, in the belief that in the important work of preparing our pupils to become self-sustaining members of society the enlargement and improvement of our school-room accommodations have become absolutely necessary. We are now using as class-rooms and study-rooms several apartments having no cellars under them, that are only eight feet between joints, and which, consequently, are often damp and poorly ventilated.

For the instruction of our pupils in industrial labor we have but one shop, in which cabinet-making is taught. It is impossible to give all our boys the benefit of this trade, and our directors are united in the opinion that other trades ought to be introduced.

BEQUEST OF THE LATE RICHARD J. RYON.

Some ten years since a legacy of \$5,000 was left to the institution by the late Richard J. Ryon, payable, along with a number of other charitable bequests, out of the residue of his estate.

This residue fell very far short of being sufficient to pay all the bequests in full, and there were provisions in the will which made it necessary that several years should elapse before any part of these legacies could be paid. Mr. Ryon's estate has, however, been finally settled, and during the past year the sum of \$1,391.30 was paid over to the institution as its pro rata share in the residue of the estate. This money, \$1,391.30, has been invested on good real-estate security, bearing interest at the rate of 6 per cent. per annum, and, with the accumulations of interest, will be held until some necessity shall arise for its expenditure.



PUBLIC DISCUSSION OF DEAF-MUTE EDUCATION.

During the past year the attention of the public has been directed to deaf-mute education by the presentation of papers before a number of learned societies, and through the discussion of the subject by specialists.

The first meeting of specialists was a convention of American articulation teachers, held at the Institution for the Improved Instruction of Deaf Mutes, located on Lexington avenue, in the city of New York, June 25-28.

Thirty-six institutions were represented at this gathering by more than one hundred teachers. The delegates from this institution were the president, Professors Samuel Porter, and Joseph C. Gordon, of the college faculty, and Misses M. T. G. Gordon and Sarah H. Porter, instructors in our primary department.

The sessions of this convention were devoted to the discussion of methods of teaching articulation and speech reading, and there is good reason to believe that the effect of the meetings will be felt very favorably on the work of giving speech to the dumb in America.

The other assemblage of specialists was the Fifth Conference of Principals of American Institutions for the deaf and dumb, held at the Minnesota School for the Deaf, Faribault, Minn., July 9-13.

Twenty-six heads of institutions from all sections of our country were present at this conference. There were also in attendance fifty-three other persons, mostly teachers of the deaf, directors, and other institution officers, who were invited to sit with the conference as honorary members.

This institution was represented at Faribault by the president, and

by Prof. E. A. Fay, of our college faculty, who attended in his capacity as editor of the *American Annals of the Deaf and Dumb*.

During the sessions of this body many subjects of great interest and importance were presented and discussed, and valuable opportunity was had, as also at the meeting in New York, for the private interchange of views between individuals.

Full reports of the proceedings of the two conventions of specialists will be shortly published, and can be obtained on application to the institutions at which the meetings were held.

It is proper to refer in this report to a paper read at the conference of principals, which cannot fail to exert a very great, if not decisive, influence in determining the relative importance of the various methods and systems of educating the deaf in use at the present time.

This paper was presented by Mr. Job Williams, principal of the American Asylum for the Deaf and Dumb at Hartford, Conn., and was entitled, "*A system of education adapted to all deaf-mutes, not excluding the feeble minded.*"

Mr. Williams gives very full statements as to the development, mental and otherwise, of thirty-two deaf children, who became pupils of the school at Hartford after having been under instruction in schools where the pure oral method was followed. The facts elicited in a review of the progress of these thirty-two children led Mr. Williams to urge most earnestly that the *combined system* is the only one under which the education of deaf-mutes, considered as a class, can be successfully conducted.

It is gratifying to the president and directors of this institution that so eminent an authority as Mr. Williams, sustained as he is by unimpeachable testimony, should uphold the views he does. For they remember that in 1867, during which year the first schools for the oral instruction of the deaf in this country were established, the opinions now upheld by Mr. Williams were expressed in the Tenth Annual Report of this institution by the president of the board, who had at that time just completed a careful examination, made under the authority of the board, of the most prominent European schools for the deaf. All who are familiar with the history of this institution are aware that the combined system has been followed here for many years with increasingly gratifying results.

The education and treatment of the deaf has been discussed during the past year before the National Academy of Sciences, before the National Educational Association, before the Philosophical Society of Washington, D. C., before the American Association for the advancement of Science, and before the American Otological Society, thus bringing the interests of the class for which we are laboring prominently to the notice of scientific men. For the good results sure to follow such general consideration of the work of instructing the deaf, the members and especial friends of that interesting class are to be most heartily congratulated.

All of which is respectfully submitted by order of the Board of Directors.

E. M. GALLAUDET,
President.

Hon. HENRY M. TELLER,
Secretary of the Interior.

REPORT OF THE SUPERINTENDENT OF INDIAN SCHOOLS.

WASHINGTON, D. C., *September 22, 1884.*

SIR: I have the honor to submit my third annual report relating to Indian schools.

The past year has been one of interest and prosperity in the line of Indian education. Five new boarding schools and 12 day schools have been added to the list. There have also been added three important industrial schools outside of agency control, reporting directly to the Department—Genoa, Chilocco, and Lawrence. Additions have also been made to several agency boarding schools during the year, which, with the new buildings, have materially increased the facilities. The enrollment and attendance of pupils have also been largely increased over the preceding year.

We now have 81 boarding schools, 76 day schools, and 6 industrial schools, which are wholly under Government control, or for which the Government furnishes the supplies, the employes being furnished by some one of the churches, or for which the Government pays a stipulated sum per capita, reserving the right to supervise the *personnel* of the schools—the last being denominated contract schools, of which there are 14 boarding and 4 day schools. Besides those named there are 2 boarding and 30 day schools among the New York Indians, which are conducted under State law, without expense to the Government. There are also about 23 other schools, wholly under missionary control, no part of the expense being paid by the Government.

This showing does not include the schools of the five civilized nations of the Indian Territory, whose educational matters are managed and paid for by themselves, entirely independent of the Government. They include in their list several very important colleges, academies, and orphan asylums, besides a very large number of district schools, many of them equaling the similar class of schools in the States. Their teachers are mostly from among their own people, and to the missionary labors of faithful men and women are they much indebted for the efficiency and character which enables them to be teachers among their own people.

The capacities of the various schools denominated Government and industrial schools are set forth in the accompanying tables, amounting to 6,635 for the boarding and 3,330 for the day schools, a total of 9,965, to which may be added the New York schools with capacity of 2,456 and the 23 missionary schools with capacity for 993, making total facilities for 13,414 pupils. The capacity of the agency boarding schools is 5,280, and day schools 3,330. The enrollment of the boarding schools was 4,782, and for the day schools 2,963; the average attendance of the former 3,404, and of the latter 1,757. The enrollment was within 865 of the full capacity, and the average attendance was 71 per cent. of the enrollment of the boarding and 60 per cent. of the day schools.

The increase in average attendance the last year over the previous year at agency schools was 925, to which add 301 for the new schools, Genoa and Chilocco, and we have an increase in the average attendance during the year of 1,226, or about 30 per cent. over the previous year. And this calculation does not include the attendance at the missionary schools before alluded to, some of which have been organized during the past year, nor to the additional number attending

schools in States, so that, in fact, the grand increase of the year has been more than 30 per cent. over the preceding one.

In a few instances the agency schools have not done as well the last year as they did the previous one. This was caused partly by want of knowledge and tact of those in charge, and partly by want of proper agency support. Without the support of the agent it is very difficult to do successful school work at an agency.

Changes having been made in the *personnel* of those schools it hoped the work and interest may be promoted during the current school year ending June 30, 1885.

Of the three new industrial schools which have been completed and organized and are now in successful operation, Chilocco, located upon a small creek of that name, 1 mile south of the Kansas State line and 5½ miles from Arkansas City, Kans., was opened in January last with an attendance of 140 pupils, which was increased in February to 180, representing seventeen different tribes and as many dialects. The term continued until July 1 with an average attendance of 168 pupils, about two-thirds of whom were males, some of them over twenty years of age.

Some dissatisfaction arose among the older boys because the superintendent did not pay them for working, which he was prevented from doing by the act making the appropriation for the school. This dissatisfaction caused some of them to leave the school without permission and return to their homes. Those returning to the Cheyenne and Arapahoe Agency were collected and sent back under police escort, by the order of Agent Dyer. This action had a good effect in preventing a repetition of the same act.

A few of the Kaw and Ponca children also returned home, some by permission, others ran away. These two agencies are so near the school that the frequent visits of the friends of the children interrupted their studies and caused them to become dissatisfied; so much so that it was decided to discontinue the attendance of all pupils from both agencies, and most of them have since gone to the Lawrence school. The pupils at Chilocco have generally been well satisfied, and made good progress intellectually and "industrially." The boys have broken about 275 acres of sod ground, sown 50 acres of it to millet; have cultivated 15 acres in potatoes, melons, and other vegetables; have made several miles of board and wire fence; have cut and put up over four hundred tons of hay, besides assisting in baking and housework, and caring for the stock.

The location of this school is, in some respects, an unfortunate one, being neither in nor yet out of the Indian country; is easy of access by the various tribes, whose frequent visits are calculated to interrupt the studies of the children and cause some of them to become dissatisfied. It is believed, however, that this will cease after the newness of the matter wears away, and the children become fully interested in their studies and settled in their new home. It is possible that its location may then prove a benefit, instead of a disadvantage. The general location was fixed by an act of Congress in 1882, which was before the creation of the office which I hold. Subsequently I was directed to make the specific location, which I did by selecting the site on which the buildings now stand. At that time I was not favorably impressed with the idea of a school in that neighborhood, thinking trouble would arise from pupils running off, but the experience of one term has very much increased my faith in the ultimate success of the school. Under the management of the right man, and properly sustained by the Government and agents from whose agencies the children are sent, it will

not only be successful but in a few years help very materially in its own support.

Twelve hundred acres were at first selected for a school farm. Since then, by Executive order, thirteen sections more have been added, for the purpose of allowing those of the Indians who may be educated there, and desire to do so, to select small farms and make for themselves homes. It is presumed that help will be extended to them by the Government, under the direction of the superintendent of the school, thus giving them a chance to put into useful practice the knowledge gained at school, and have a location near markets and among white people.

A school herd of 425 head of cattle has been purchased and delivered to the school, thus utilizing a part of the land so set apart, for grazing purposes. After two years this herd will furnish all the beef necessary for the school.

Farming and the care of stock are the only industries yet provided for at Chilocco. Shops for blacksmith, wheelwright, carpenter, shoemaker, and harness-maker are necessary, and must be provided before the school can be fully made what it was intended to be—an industrial school. Additional appropriations should be made at the next session of Congress for this purpose.

The Genoa industrial school, situated upon the old Pawnee Reservation in Nebraska, was opened in February last with an attendance of 140 Sioux children, nearly all of them from the Rosebud Agency, Dakota. A large number of "big boys," or, in fact, young men, were received, with the expectation of utilizing their labor, and most of them have fully met that expectation, cultivating fine crops of corn and small grains, including 140 acres of corn, 60 acres of oats, 6 acres of potatoes, and several acres in a "truck patch." The crops were well planted and cultivated, and the yield very large for that country; corn from 50 to 75 bushels to the acre, and oats 60 bushels. All the work was done by the Indian boys under the direction of one white man, the school farmer. Four of the boys are learning the carpenter trade, and, working under the direction of the carpenter, have constructed all the outbuildings and sheds. A few boys have been employed to assist in brick-making.

The superintendent informed me that the boys have worked in all the various branches without receiving any pay for their labor, as the appropriation act prohibited such payments. This had a very discouraging influence upon them, causing them to become dissatisfied, and some of them to run away and return to their homes. Whereas, if he had been permitted to pay them even a very small consideration for their work, it would have made them contented, as well as given them the important lesson that labor has its rewards. The provision referred to has been changed in the appropriations for 1885, and good results will no doubt follow the change. Additional buildings are also necessary at this school for shops in which to teach the various trades. Appropriation should be made for that purpose, and is respectfully recommended.

The buildings at Lawrence, Kans., were to have been finished by the 1st of last January, but cold weather commenced quite early, making stone-laying and plastering impossible, so that the contractors were unable to proceed with their work as rapidly as they expected. There was also some difficulty about one payment of the money for the work, which delayed it for a short time, and the buildings were not completed until about the first of July. Hot weather having commenced, it was not thought advisable to collect the children for the school before time

for the fall term. Seven boys were transferred from Chilocco in the spring to labor on the farm, and, under the direction and help of the superintendent of farming and a white employé, have cultivated about 120 acres in corn sorghum, oats and millet, and several acres of potatoes, which give the necessary supplies of forage for the animals and provide potatoes and sirup for the pupils of the school. These boys have helped to plant an orchard, and grade and arrange the grounds around the buildings; also have helped to build barns and other necessary out-houses.

The school has now, September 22, commenced its regular exercises with an attendance of over one hundred, which, we expect, will be increased to two hundred and fifty early in October. Additional buildings for shops are necessary at this school. A few cottages should also be erected for accommodation of employés.

The new building at Albuquerque, N. Mex., is also completed and will be occupied by a transfer of the old school for the session commencing October 1. The superintendent of the school has found it necessary to erect some temporary additional buildings for the accommodation of the school, as the limited amount of funds applicable would not admit of a greater outlay than was made in the erection of the main building. It is believed that when complete in its appointments by the necessary additions and outbuildings, the Albuquerque school will take rank as one of the most important among Indian schools.

A new building has also been completed at White Earth Agency, Minnesota, adding largely to the school facilities of that agency.

The transfer of Fort Stevenson, Dakota, gives an opportunity to arrange for school privileges for many more children than belong at the agency near which it is located—Fort Berthold.

The transfer of Fort Hall, Idaho, gave to us an opportunity for a school for the Shoshones and Bannocks of the Fort Hall Agency. It is distant 16 miles from the agency, located in a beautiful little valley, with grass and farm land sufficient for the school. If the Lemhi Agency children were brought to this school it might be the means of the removal of the Indians from that agency to the Fort Hall Agency, which is very desirable. The school facilities are sufficient for both agencies.

Under the provision of the appropriation act for placing children in industrial schools in States, 565 children during the year have been placed in schools in the following States: Kansas, Iowa, Illinois, Indiana, Pennsylvania, Nebraska, North Carolina, Tennessee, Wisconsin, California, and Minnesota, with good results, the cost per capita, besides transportation, being \$167. Some of the institutions claim that this amount is not sufficient to meet all the expenses and has to be supplemented by individuals or by the schools.

The provision for placing children in private families has not met with as good success as in the other case, though it has been done in some instances, and especially from Carlisle and Hampton, with very good results. This provision can be carried out through the schools situated away from the agencies, better than in any other way. The people of the West are rather reluctant to take Indian children into their families. During the past harvest I was at Chilocco and accompanied Superintendent Hadley of that school to visit several farmers, to try to arrange for work for Indian boys; in some cases we were rebuffed quite harshly. This feeling will change as the people become acquainted with the Indian boy in his changed condition. I think it will be easy to obtain places for Indian boys next year, even in the neighborhood of Chilocco. In 1882, the Rev. James Finley, then a missionary among the Wyandottes,

selected seventeen boys from that tribe and procured homes for them among white people; those boys proved a great benefit to their tribe, and aided materially in its civilization.

There is still a strong opposition in some tribes to sending their children to school, which is very difficult to overcome, and those who have decided in favor of schools are much more willing to let the boys go than the girls. For this there are several reasons. Their estimation of woman places her far below man in the scale of worth; her natural position and status with them is that of a slave. The same tradition which tells them that it is ignoble for a man to work, informs them that it is the woman's place to do the work. She has a marketable value, can be sold or traded for ponies to some man wanting a wife, and her innocent ignorance tells her it is all right. Not so, when education and civilization open her eyes to see aright. In her changed condition she is not willing to be sold as a commodity, it may be to some old man, as wife No. 2, 3, or 4, as it sometimes happens the girl of ten or twelve years becomes the second, third, or fourth wife of a man far advanced in years. Greater inroads are made into uncivilized ways and customs among the so-called wild tribes by the education of the females than by that of the males. And this makes the education of the females a very important matter. Polygamy is very common among the uncivilized tribes. Education and Christian influence will overcome it in time; but while it continues the opposition to educating the females will also continue. It might be prevented by a law forbidding the marriage of females under the age of eighteen years, unless by the written consent of the agent, who to that end should be constituted the guardian of the children of his agency. Such a law as this, I believe, would have the tendency to send the girls to school; if not, then a more compulsory law should be enacted, as the elevation and civilization of the Indians will require many more years, if only a few of the girls attend school, than it will if the many are educated.

The Osages have taken the lead in compulsory education; a law passed by their council requires eight months' attendance at school of each child of school age or a forfeiture of the year's annuity money, amounting to about \$100 per capita. This law has had the effect to fill up the agency school; besides, there are over a hundred children at other schools away from the agency.

Referring to the matter of the early marriages among the Indians, which is often consummated while the couple are early "in their teens," General Armstrong, of Hampton, has been making valuable experiments in receiving young married couples into his school as pupils, of which he says:

We have attempted at Hampton nothing more hopeful than this in training Indians. The husband and wife advance together with common interests, a home will be established on their return to the reservation, and their future will be comparatively secure.

I regard this as a very important experiment, and believe it can be successfully inaugurated and carried out at our Western schools; but to do it, cheap cottages of two or three rooms will be required for each couple. The cost of the material would be very small, and the work could be done by the Indians themselves.

The mixed bloods at some of the schools are in the majority. They seem to be taking the lead in educational interest, and teach the lesson that the time is rapidly coming when, if the full-bloods keep back their children, the affairs of the agencies where the mixed bloods live will be controlled by them. The educated will control the ignorant.

The present plan and effort to better the condition of the Indian race by offering to their children liberally the opportunities of an education appear to be solving the Indian problem more effectually and rapidly than anything done in the previous years, although it is not a new idea, but an old system revived. The same kind of opportunities was offered many years ago. In 1838 the Choctaw Academy, an industrial school with all the branches of industry taught, was started in Kentucky, and for a time did a good work. Much of the valuable civilization of the Choctaws, Chickasaws, and Cherokees was taught in that school, but it succumbed to adverse circumstances. In 1841 the Methodist Episcopal Church started an industrial school at Fort Leavenworth, in which one-half the time was devoted to industry and half to intellectual studies. Various trades were taught to the boys, and many of them became skilled mechanics. A farm of several hundred acres was fenced and cultivated by the Indians. For several years it was a very successful school, but public sympathy and sentiment were not educated sufficiently to protect it. The country occupied by the Indians was wanted (not needed then) by the white people; the Indians had to change their homes and the school ceased to exist, and to most of the Indians there seemed to be no need of an education; they had a similar feeling to that of the Cheyenne who, a few years ago, said to his agent, "What need have we of an education? It will not help us to hunt the buffalo or to kill and cure his meat and tan his hide. No, no! education is for the white people."

But the great changes wrought in the last few years have also worked changes in the Indian mind. Most of them realize it and are anxious for a better way. That way we offer them through the school-house, and many of them accept it. Our great object in educating them should be to make them self-reliant and prepare them for lives of useful industry, and care should be taken "that we do not educate them out of their old Indian ways into ones leaving them helpless and proud."

In addition to those attending agency schools, a very large number are now attending schools away from their own reservations. After completing their school years, a majority of them will return to their homes; only a few can find employment at the agencies, and without employment they cannot obtain money to buy clothing. In this state of affairs nothing seems to be left for those belonging at agencies of blanket Indians but to return to the blanket and camp life, however unwilling they may be to do so. While this is bad for the males, it is worse for the females, whose sense of morality and propriety has been sharpened and cultivated by that education which without further help will not make their lives more comfortable. If it were possible to persuade them to find work among white people and only return home occasionally on a visit, or not at all, that might meet the case, but this cannot be done, as most of them will return home to remain. Those belonging to the tribes already well advanced in civilization can join their own people in farming and other pursuits. Not so with those belonging to the tribes known as blanket Indians, most of whom live in tents, grouped together into villages, and give very little attention to industrial pursuits.

Plainly this situation of affairs calls upon the Government to make some provision to meet it, and protect those whom it has advanced so far in intellectual and industrial culture as to change their objects and aims of life and cause them to be no longer satisfied with the manners and customs of their own people. Most of them are poor and without the means necessary in starting in a new life to support themselves. Their location is far removed from civilization, consequently they are deprived from doing as young white men would do, working for their

more fortunate neighbors until in possession of funds enough to help themselves.

As a rule, only that class of white people, who set at defiance the laws which declare the reservation lines, are their neighbors, and often they are indolent and of no advantage to the Indians either by precept or example. And not until the time shall come when the Indian, as well as his white friend, backed by acts of Congress, shall be at liberty to go and come at pleasure will he have equal opportunities with his white brother. That time can be hastened by the Government extending proper help to the class already referred to.

Much has been said in the last two or three years about a large treaty indebtedness to several of the tribes on account of educational promises made by the Government and not fulfilled, and it cannot be controverted, because it is true; but so many other school arrangements have been made that it would not be wise at this time to attempt to carry out those promises in all the tribes named, but the indebtedness still remains. Why not from this fund make a liberal appropriation to help provide homes for the class referred to, by assisting in the purchase of teams and agricultural implements, and in selecting farms and building cheap houses? A very small outlay would be sufficient in each case, and the result would richly repay the cost, for the Government would be relieved from any further expenditure on their account, as their names, if members of ration tribes, should then be taken off the roll, and their example and influence would cause others to adopt the same ways of living.

Proof is abundant of the ability of Indians to support themselves and manage their business affairs successfully. By the census report we learn that a very large number of Indians are tax-payers. More in number than one-fifth of what we regard as our Indian population belong to that class. The report of 1870 showed a population of 25,731 Indian tax-payers, which increased in the ten years (to 1880) to 66,407, an increase of 40,676 in ten years. This is a good showing. Some action should be taken by Congress for conferring the right of citizenship upon Indians. All who have attended school three years or more, upon arriving at proper age should become citizens; and adults who have become civilized, without attending school or receiving an education, but who have or may separate themselves from their tribes, so far as to cease to live in the tribal relationship, should also be made citizens. Certainly this is a matter worthy of serious consideration. It is not right to deprive those who have come up through the books to an intellectual understanding of the rights and duties of citizenship, of those rights; they cannot be educated and be Indians still.

Education opens to them a new world of thought, and with it should come new opportunities. But I do not think the education should be confined to the work being done for the children. A grand start was made by the honorable Senate committee last winter, when the clause was inserted in the appropriation bill providing \$25,000 for extra farmers. The industrial education must be extended to the adults, and most of them are ready for it, and must be so taught before they will be willing or prepared to accept lands in severalty. Let Congress appropriate liberally, and give to the heads of the Department and Bureau, the right to exercise their good judgment; put the agencies in charge of men whose interests extend beyond their salaries, and with judicious expenditures in helping the Indians to make farms and build houses, we would not have to await the slow process of educating only the children to see the civilization of the entire Indian race.

Believing that the good of the service would be promoted by a conference of the superintendents, matrons, and teachers of the various schools, where an exchange of views as to methods and systems might be had, I arranged for such a meeting for the schools of the Indian Territory, to convene at Chilocco in August last. Several of the schools were represented and a very interesting and profitable meeting had. Owing, however, to the fact of the expense being considerable, the schools located at the greatest distance were not represented.

I believe such conferences will greatly benefit the schools, and for that reason would ask that some arrangement be made whereby the extra expense may be paid by the Government. It is believed \$250 would be sufficient for the next year.

From the annexed tables it will be observed that the cost of boarding schools wholly supported by the Government, and continuing through the school year, averaged per capita \$138.95, and the day schools within a fraction of \$700 each. Those under contract do not cost the Government as much; but what the Government pays, added to the contributions outside, makes them in many cases run above the cost of those for which the Government pays all.

The tables show the number, capacity, enrollment, attendance, and location of each school. Also the expenditures on account of same, whether paid by the Government or others, including, as far as can be ascertained, the contributions of religious societies and others. Also value of supplies raised upon school farms and used by schools. Also the number of children attending schools in States, with the locations; and number of children at the industrial schools, other than those at agencies, and cost of maintaining same.

I have the honor to be, very respectfully, your obedient servant,

J. M. HAWORTH,
Indian School Superintendent.

Hon. H. M. TELLER,
Secretary of the Interior.

REPORT OF THE UTAH COMMISSION.

OFFICE OF THE UTAH COMMISSION,
Salt Lake City, Utah, November 18, 1884.

SIR: Since our last report, of date April 29, 1884, two important elections have been held in this Territory—the general election for county and precinct officers, held on the 4th day of August, and the election for Territorial Delegate to the Forty-ninth Congress, on November 4.

Both these elections were preceded by revisions of the registration lists under our supervision and direction, by which it is believed that all polygamists were excluded.

The offices filled in the several counties of the Territory at the August election included, among others, those of probate judge, county clerk, selectman, sheriff, recorder, treasurer, surveyor, coroner, prosecuting attorney, county superintendent of district schools, justices of the peace, constables, &c. At the same time a number of municipal officers were elected in several of the cities.

Of the officers so elected nearly all are Mormons who are not in fact living in polygamy. The only exceptions are a few precinct officers who are Gentiles or non-Mormons. The vote polled at the August election

was comparatively light. Out of 40,743 registered voters there were only 20,453 votes cast. The vote was so light in Salt Lake City that if the Gentiles or non-Mormons had all voted they would have elected several precinct officers.

At the election for Delegate to Congress, out of 41,858 registered voters the total number of votes cast was 23,361. Of these, John T. Caine (the candidate of the People's or Mormon party) received 21,130 votes, and Ransford Smith (the candidate of the Liberal or non-Mormon party) received 2,215 votes, and scattering 26 votes. John T. Caine, having received a majority of all the votes cast, was declared elected.

The Delegate elect is a Mormon, but he does not now and never has lived in polygamy, and is therefore eligible under the law.

We think we may properly say that the duties imposed upon us have been faithfully and successfully performed, with the result at the late election, as well as those formerly held under our supervision, that all polygamists have been excluded from voting and holding office.

After more than two years' labor and experiences here it becomes our duty to advise the Government and the country that, although the law has been successfully administered in respect of the disfranchisement of polygamists, the effect of the same upon the preaching and practice of polygamy has not been to improve the tone of the former or materially diminish the latter. For a year or more after the effort to enforce the law was initiated polygamic teachings from the pulpit were rarely heard, and there were indications that the practice of polygamy might be expected to at least measurably decline.

But during the present year there appears to have been a polygamic revival. The institution is boldly, defiantly defended and commended by the spiritual teachers, and plural marriages are reported to have increased in number.

In order to ascertain whether these reports as to the increase of plural marriages were well founded, circulars were issued some months ago, directed to our registration officers, requesting them to give the names of persons, male and female, in their respective precincts who, as they might have good reason to believe, had entered into the polygamic relation since the passage of the "Edmunds act." Our returns to these inquiries are imperfect, there being six counties in which the population is almost exclusively Mormon, and from which we have received no reports. These reports indicate that 196 males and 263 females have entered polygamy since the passage of the law above referred to.

There is possibly some significance in the fact that this reported increase in plural marriages seems to be coincident with the completion of the Mormon temple at Logan, the most prominent and influential city in the northern section of the Territory. The dedication of this temple was attended with great pomp and ceremony. A large concourse of people assembled there, many of them from a great distance. Mormon fanaticism was blown into a flame, and we have information that polygamic marriages at that time received an additional impetus, and although we have no official data upon which to base a statement—because the record of Mormon marriages, if there is one in this Territory, is a sealed book to all the world—it is undoubtedly true that an unusual number of plural marriages followed this event.

There are four Mormon temples in Utah—at Salt Lake City, Manti, Logan City, and Saint George—only the last two being finished. These buildings have been erected at great cost, the expenditure on the temple at Salt Lake City having reached nearly two million dollars, and although it was begun thirty-one years ago it will require five years

more to complete it. These temples are regarded by the Mormon people with extraordinary reverence. Their ordinary religious meetings are held in tabernacles and meeting-houses in all the cities and settlements, but the temples are intended for the celebration of certain ordinances, covenants, and mysteries, among others baptism for the dead and marriage ceremonies. These ordinances and ceremonies are supposed by the Mormons to have a peculiar efficacy and solemnity when they are celebrated in one of these temples.

Three-fourths or more of the Mormon adults, male and female, have never entered into the polygamic relation, yet every orthodox Mormon, every member "in good standing" in the church, believes in polygamy as a divine revelation. This article of faith is as much an essential and substantial part of their creed as their belief in baptism, repentance for the forgiveness of sins, and the like.

There is however in Utah, and several of the States, a sect styling themselves the "Reorganized Church of Jesus Christ of Latter Day Saints," commonly called Josephites, who discard polygamy as a spurious revelation, but who give full faith and credit to all the other so-called revelations given to the "Prophet Joseph." These "Josephites" are comparatively few in number in Utah, and are regarded by the orthodox church, headed by John Taylor, as schismatics, and but little better than apostates and infidels.

As an illustration of the "oneness" of faith among the Mormons in regard to polygamy, as well as their peculiar view of the "higher law," we call attention to an important polygamy case recently tried here—"The United States *vs.* Rudger Clawson." The charge in the indictment was that on the 1st day of August, 1882, the defendant married Florence Ann Dinwoodey, with whom he is still living as his wife, from whom he has not been divorced, and that afterwards, on the 1st day of June, 1883, he married Lydia Spencer. The second count of the indictment charged unlawful cohabitation under the "Edmunds act."

The members of this Commission were present and witnessed³ this trial. There were several features of the proceedings that made a strong impression upon our minds. The jury had been selected under an act of Congress applicable only to Utah, which would ordinarily result in the empaneling of a jury approximately composed of half Mormons and half Gentiles, provided there were no challenges. But in this case, in pursuance of a provision of the "Edmunds act," each juror was asked, "Do you believe it right for a man to have more than one living and undivorced wife at the same time?" Each and every Mormon in the box—a few with hesitation, but nearly all with promptness—answered, "Yes, sir." All such were successfully challenged for cause. The list of jurors drawn under the act of Congress for the year 1884 having been exhausted by these challenges, and there being less than twelve remaining, an open venire was issued; so the panel was completed, consisting of twelve—all being non-Mormons.

This part of the proceedings affords strong confirmation of the opinion we have before expressed, that all orthodox Mormons believe polygamy to be right, and that it is an essential part of their creed.

The jury having been sworn, a protracted trial ensued, resulting in a disagreement of the jury.

At this trial the second wife was not present as a witness. A new trial was begun on the succeeding day, at which the attendance of the second wife as a witness was secured.

This trial resulted in a verdict of guilty on both counts of the indict-

ment. The sentence was a fine of \$800, and four years' imprisonment in the penitentiary.

The trial of this case has caused a profound sensation throughout this Territory. The defendant and his two wives, together with many of the witnesses, belong to the better class of Mormon society. He is a young man, the son of a bishop. The father married, among other wives, two daughters of the late Brigham Young. It is a remarkable circumstance that although this polygamic marriage had been notorious in the community for many months, there was no direct evidence of the fact until it was disclosed by the second wife, who at first refused to testify, but finally consented after submitting to imprisonment in the penitentiary one night, for contempt of court.

Incredible as it may appear, among all the witnesses examined—and there were many, including the immediate relatives of the parties, the president, and other high officers of the church—every one except the last witness, the second wife, disclaimed all knowledge of the marriage. When we remember that Mormon plural marriages are solemnized only in the temples and endowment houses, which are in charge of the high officers of the church; that this particular marriage was proven by admission of the second wife to have occurred in this city, and that all the relatives of both parties to the marriage reside here and were in daily association with them, it is indeed strange that none of them should have been able to testify as to the truth or falsity of the charge.

Before pronouncing judgment on the verdict, Judge Zane propounded the usual question.—

Have you any further legal cause to show why judgment should not be pronounced against you?

The DEFENDANT. Your honor, since the jury that recently sat on my case have seen proper to find a verdict of guilty, I have only this to say why judgment should not be pronounced against me. I may much regret that the laws of my country should be in conflict with the laws of God, but, whenever they do, I shall invariably choose the latter. If I did not so express myself I should feel myself unworthy of the cause that I represent. The Constitution of the United States expressly states that Congress shall make no law respecting the establishment of religion, or prohibiting the free exercise thereof. It cannot be denied that marriage, when attended and sanctioned by religious rites and ceremonies, is the establishment of religion. The law of 1862 and the Edmunds bill were expressly designed to operate against marriage as practiced and believed in by the Latter Day Saints. They are, therefore, unconstitutional, and cannot command the same respect that a constitutional law would. That is all I desire to say, your honor.

The COURT. The Constitution of the United States, as construed by the Supreme Court, and by the authors of that instrument, does not protect any person in the practice of polygamy. While all men have a right to worship God according to the dictates of their own consciences, and to entertain any religious belief that their conscience, reason, and judgment dictate, they have not the right to engage in a practice which the American people, through the laws of their country, declare to be unlawful and injurious to society.

The view expressed by Clawson is in conformity with the uniform sentiments of all the Mormon people. But while this is their creed, it is evident that many Mormons are reluctant to enter into the polygamic relation, and it would be strange if the trial and conviction of Rudger Clawson should not have a restraining influence upon the young Mormons. Before passing from this subject we wish to bear testimony to the marked ability with which this cause was prosecuted by the United States district attorney and his assistants.

Following this trial there was another conviction for polygamy in the case of Joseph H. Evans, on the evidence of his second wife, who was a willing witness against him. He was sentenced to a fine of \$250, and imprisonment in the penitentiary for three and a half years.

In another case, lately tried in the same court—that of John Connelly—

there was an acquittal upon evidence tending to show that the prosecution was barred by the statute of limitations.

We advert to these prosecutions for the purpose of giving information of current events in the Territory, as well as to give confirmation to a statement made in our report submitted April 29, 1884, as follows:

In regard to those provisions of the act of Congress relating to the punishment of the crime of polygamy (which appertains to the courts of justice, and not to this Commission), we beg leave to suggest that a vigorous enforcement of those provisions ought to go *pari passu* with the execution of those provisions that come under the authority of this Board; and we are assured that by vigorous and energetic action the guilty parties can be brought to justice in many cases.

We have more than once in our former reports suggested that, as the Government has to deal here with a people who are wonderfully superstitious and fanatically devoted to their system of religion, the public should not expect as the immediate result of the present laws of Congress, nor indeed of any legislation however radical, the sudden overthrow of polygamy, and we now repeat that the most that can be predicated upon such legislation is that it will, if no step backward is taken, soon ameliorate the harder conditions of Mormonism, and hasten the day for its final extinction.

We have understood and believed that the "Edmunds law" when enacted was considered, and offered by Congress, as a tentative measure, so to speak, with the intention on their part of going further in the same direction if the information to be furnished by the agency appointed to administer the law should warrant. Accordingly from time to time, as we have been able to perfect our judgment as to the requirements of the case, we have by reports to the President advised additional legislation in the nature of amendments to the original act. Such recommended amendments have been embodied in Senate bill No. 1283, which was passed by the Senate at its last session, and is now pending in the House of Representatives. If these should pass into law they would greatly strengthen the hands both of the Commission and the courts. But the investigation and the experiences of the past convince us that still other enactments are required; and, although none of those before submitted have received the final sanction of Congress, we venture in addition thereto to present the following: The number of elective officers in the Territory should be reduced, and the number of officers appointable by the governor should be correspondingly increased.

It is not unlikely that finally the Federal Government will find it necessary to take into its own hands all civil power in this Territory. For the present, however, we advise only—

First. That the offices of Territorial auditor and treasurer should be definitely defined by Congress as offices to be filled by appointment. And we may remark in this connection that, although the organic act would seem to leave no doubt as to the appointable character of these officers, and the Commission has persistently refused to recognize the right of election under the law, and the local courts have sustained this view, still the incumbents of these offices at the present time are holding over from previous elections. We would recommend that, in addition to the above, commissioners to locate university lands, probate judges, county clerks, county selectmen, county assessors and collectors, and county superintendents of district schools, be made by act of Congress appointable by the governor, and that all these after the nomination of the governor shall require to be confirmed by a majority vote of the commission, before being commissioned. The reason for this is obvious. The organic act now requires that all nominations by the governor

shall be confirmed by the legislative council. The council is always the creature of the Mormon power; hence no suitable appointments can be secured. The governor and the commission acting respectively as nominating and confirming powers would insure such appointments as would be effective in the effort of the Federal government to overthrow polygamy.

For the courts, after conferring with the judges and district attorney of this district, we recommend:

First. That the provisions of the law of 1874, relative to juries and the mode of selection, be revised either by providing for a greater number of jurors, or by authorizing an *open venire* when the names in the box have been exhausted.

A better provision perhaps would be one authorizing an *open venire* in all cases prosecuted by the United States.

Second. The jurisdiction of the several district courts ought to be extended so as to give to each jurisdiction of all cases of polygamy, wherever, in the territory, the crime may have been committed.

Third. In United States cases the territorial courts should be invested with a power co-extensive with that possessed by the United States circuit and district courts in the several States, in matters of contempt and the punishment thereof.

Fourth. Prosecutions for polygamy should be exempted from the operation of the general limitation laws. Certainly while the parties continue to live in polygamy the statute should not run against the principal crime, polygamy.

Fifth. The process of subpoena in all cases prosecuted by the United States should run from the Territorial courts into any other district of the United States.

Sixth. Provision should be made for the binding over of witnesses on the part of the Government, in all United States cases, to appear and testify at the trial.

Seventh. When a continuance is granted upon the motion of the defendant, provision should be made for the taking of depositions of witnesses on the part of the Government, with opportunity given the defendant to be confronted with the witness or witnesses, at the taking of such deposition, and to cross-examine. Such deposition to be used at the trial in the event of the death of the witness, or in case of his or her absence from the Territory at the time of trial, or in the event that such witness concealed himself or herself, so as to elude the process of subpoena.

Eighth. It should be made a penal offense for any woman to enter into the marriage relation with a man knowing him to have a wife living and undivorced. This should be coupled with a provision that in cases where the polygamous wife was called as a witness in any prosecution for polygamy against the husband, her testimony given in such case could not be used against her in any future prosecution against herself, with a like provision as to the testimony of the husband called as a witness in a prosecution against his polygamous wife.

For the Commission.

Very respectfully,

ALEX. RAMSEY,
Chairman.

Hon. HENRY M. TELLER,
Secretary of the Interior,

REPORT

OF

THE POSTMASTER-GENERAL

POST-OFFICE DEPARTMENT,
OFFICE OF THE POSTMASTER-GENERAL,
Washington, D. C., November 20, 1884.

SIR: I have the honor to submit herewith my report of the operations of this Department for the past year, and I avail myself of this opportunity to pay a deserved tribute to the Assistant Postmasters-General, and the chiefs of divisions, for the faithful and efficient discharge of the trusts confided to them, and the very valuable assistance they have rendered me in the preparation of this Report.

FINANCIAL STATEMENT.

The total expenditures made on account of the service of the fiscal year ended June 30, 1884, were..... \$46,404,960 65

The revenues for the year were as follows:

1. Ordinary postal revenue.....	\$42,818,635 00
2. Net revenue from money-order business	519,492 08
	43,338,127 08

Excess of expenditures over receipts.....	3,066,833 57
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To which should be added:

1. Estimated amount of outstanding liabilities	877,471 04
2. Amount credited on books of Treasury to Pacific Railroad Companies.....	1,260,179 51

Gives estimated cost of service over the revenues for the fiscal year.. \$5,204,484 12

The revenues were \$2,170,565.53, or 4.7 + per cent. less than those of the previous year; the decrease being attributable to the reduction of letter postage from 3 to 2 cents, which took effect October 1, 1883.

In addition to the amount expended for the service of the year \$819,599.62 was paid on account of liabilities of previous years, making

the total amount disbursed during the year (exclusive of credits to the Pacific railroads,) \$47,224,560.27.

The expenditures are itemized in Table No. 2 accompanying the report of the Third Assistant Postmaster-General. The amount paid to postmasters was \$11,283,830.87, an increase of \$968,436.41 over that of the previous year for the same purpose. This expenditure was \$333,830.87 in excess of the appropriation.

As explained in former reports, the law fixes the rate of compensation to postmasters, allowing them to retain it out of the proceeds of their offices before turning over the surplus to the Government, and the deficiency was therefore unavoidable by the Department. For clerks in post-offices there was an increase in expenditure of \$367,979.01, or 8.4 per cent.; and for letter-carriers \$330,900.01, or 10.4 per cent.

For railroad transportation the audited expenditures and estimated liabilities for the service of the year, including also the sums credited to the Pacific railroads, are shown by the report of the Second Assistant Postmaster-General at \$13,815,163.

The aggregate amount appropriated for the service of the year was \$46,746,037.62, or \$341,076.97 more than the amount disbursed on account thereof, and \$536,394.07 less than the total disbursements and outstanding liabilities. In Table No. 3, accompanying the report of the Third Assistant Postmaster-General, the appropriations will be found by items.

ESTIMATES FOR 1886.

The following are the estimated receipts and expenditures for the fiscal year ending June 30, 1886:

Ordinary postal revenue.....	\$50,872,820 24
Net receipts from money-order business	400,000 00
	<hr/> \$51,272,820 24
Estimated expenditures, including amounts credited under existing law to Pacific railroad companies.....	56,099,169 50
Deficiency to be supplied out of the general Treasury.....	4,826,349 26

An estimate of the revenue for the ensuing fiscal year is attended with great uncertainty, because of the reduction of letter postage to 2 cents, which took effect on the 1st October, 1883. Although the change was in actual operation during three quarters only of the last fiscal year, its effect was felt upon the revenue for the entire year; the sales of stamps for the quarter ended September 30, 1883, having been greatly curtailed in view of the then approaching reduction in the rate. Thus the sales for that quarter under the 3-cent rate amounted to \$10,083,509.53, while the average for the three succeeding quarters was \$10,220,781.38.

It is evident that the revenue exhibited for the last year would not have been greatly varied had the change taken effect on the 1st July instead of the 1st October. The revenue for the entire year is therefore taken as the basis on which to estimate for the present and ensu-

ing fiscal years. An annual increase of 9 per cent. is assumed, which would result as follows:

Amount of ordinary postal revenue for year ended June 30, 1884	\$42,818,635 00
Add 9 per cent. for increase	3,853,677 15
Gives estimated ordinary revenue for year ended June 30, 1885	46,672,312 15
Add 9 per cent. for increase as before	4,200,508 09
Gives estimated ordinary revenue for year ending June 30, 1886	50,872,820 24
Add estimated net receipts from money-order business	400,000 00
Gives total estimated revenue for year ending June 30, 1886	51,272,820 24

The rate of increase in the receipts for 1880 over 1879 was 10.8 per cent.; for 1881 over 1880 it was 10.4 per cent; for 1882 over 1881 it was 13.8 per cent; and for 1883 over 1882 it was 8.6 per cent. In view of these figures and of the stimulus afforded correspondence by a lower rate of postage, and by the increasing tendency to substitute sealed inclosures for postal cards and open circulars, an estimated annual increase of 9 per cent. in the revenue cannot be regarded as extravagant.

The estimated expenditures for the ensuing year will be found in detail in the table accompanying this report. Following the table are the communications from the several Bureaus in explanation of the estimates. The total amount is \$7,058,769.50 in excess of the appropriation for the current year; but it is already evident that the latter will, in some items, fall short of the actual requirements. For compensation to postmasters there will be a deficiency of at least \$1,500,000, and for transportation by railroads of about \$1,000,000. The estimate also contemplates the payment out of the appropriation of the entire cost of mail service on the Pacific railroads, a portion of which is now by law credited on the books of the Treasury and does not appear in the appropriation for mail transportation. The amount involved by the contemplated change in the mode of settlement is approximated at \$1,100,000, which amount, added to the two deficiencies mentioned, will leave the estimates \$3,458,769.50 in excess of the appropriations for the present year.

As shown above, the expenditures for the year ending June 30, 1886, are estimated at \$56,099,169.50, including the amounts credited to the Pacific Railroad companies. In this connection I desire to say that the estimates are made on a business basis, and after a careful study of all available data at hand, and with no intention of asking for less than the requirements of the service demand—to be followed hereafter by deficiency bills. I believe this is the better and more honest policy, and that the people are willing that every dollar required for a thoroughly practical and progressive administration of the Postal Department shall be appropriated for that purpose.

REDUCTION IN THE RATE OF POSTAGE.

The past year marked an important epoch in the history of the postal service through the reduction in the letter rate of postage from 3 to 2

cents, taking effect on the 1st of October, 1883, under the provisions of the act of March 3, 1883. As the class of matter affected yielded by far the larger portion of the postal revenue, the change, of course, produced an immediate falling off in the receipts. The ordinary postal revenue for the year ended June 30, 1884, was \$2,278,438.24 less than that of the preceding year. To this loss should, of course, be added that of the natural increase to have been expected had the 3-cent rate remained in force. An increase of 9 per cent. on the ordinary revenue of 1883 [exclusive of the money-order business,] would amount to \$4,058,736.59, which, added to the amount previously stated, would give \$6,337,174.83 to represent the loss for the first year under the change in the rate. Though the 3-cent rate was in force during the quarter ended September 30, 1883, the sales of stamps, &c., for that quarter were \$137,271.85 less than the average for the three remaining quarters under the 2-cent rate; the anticipated change in the rate having led to a serious falling off in the sale of stamps. That the loss of revenue was not greater must be regarded as gratifying, in view of the fact that the estimates on which the change was based contemplated a loss for the first year of about \$8,000,000. It is evident the prediction has been fully verified that the reduced rate would greatly stimulate letter correspondence, and lead to the substitution of sealed inclosures for postal cards and open circulars. The increase in the number of letters cannot be stated, the Department having no statistics to show the number of pieces of each of the several classes of matter mailed, and the same kind of stamps being used indiscriminately for first, third, and fourth-class matter. Neither do the sales furnish any guide, since postmasters in accounting to the Auditor report the amount in the aggregate and not in detail of the several kinds and denominations.

A comparison of the issues to postmasters of 2 and 3-cent stamps and stamped envelopes for the nine months ended June 30, 1883 under the 3-cent rate, with the issues of 2 and 3-cent stamps and stamped envelopes during the corresponding nine months ended June 30, 1884 under the 2-cent rate, may be found of interest in this connection, though affording no certain indication of the actual sales. During the nine months ended June 30, 1883, the number of 2-cent stamps and stamped envelopes issued was 104,642,125, valued at \$2,092,842.50, and of 3-cent stamps and stamped envelopes 653,629,330, valued at \$19,608,879.90. The number of 2-cent stamps and stamped envelopes issued during the nine months ended June 30, 1884, was 955,427,400, valued at \$19,108,548, and of 3-cent stamps (the issue of 3-cent stamped envelopes having ceased,) was 127,300, valued at \$3,819. The total number of 2 and 3-cent stamps and envelopes issued, therefore, during the former period was 758,271,455, valued at \$21,701,722.40, and during the latter period 955,554,700, valued at \$19,112,367; an increase in number of 197,283,245, or 26 per cent., and a decrease in value of \$2,589,355.40, or 11.9 per cent.

In postal cards there was a decrease in the issues of 16,640,000, or 4.5 per cent., for the year ended June 30, 1884, as compared with the previous year. During the preceding five years there has been an average annual increase of 13.68 per cent.

One of the minor benefits resulting from the change of postage is the reduction in the number of insufficiently prepaid letters deposited in letter-carrier post-offices for mailing to other places. At these offices heretofore large numbers of such letters have every year been deposited for mailing on which the senders have, through inadvertence, prepaid postage to the amount of 2 cents only—that being the local rate—instead of 3 cents. In all such cases, under the law, the letters have been detained until either the senders or addressees have furnished the deficient postage, failing in which the letters have been sent to the Dead Letter Office. Now that the local rate of postage at these offices is the same as the general rate, the number of insufficiently prepaid letters has very materially decreased, thus saving a large amount of trouble to the postmasters, a great delay in the transmission of the letters, and considerable annoyance to both their senders and receivers.

ISSUE OF POSTAGE-STAMPS, STAMPED ENVELOPES, AND POSTAL CARDS.

The number and value of postage-stamps, stamped envelopes, and postal cards issued upon requisitions during the year were as follows:

Articles.	Number.	Value.
Ordinary postage-stamps	1, 450, 768, 460	\$29, 077, 444 00
Newspaper and periodical stamps	2, 439, 898	1, 923, 217 80
Stamped envelopes, plain	147, 225, 800	2, 907, 340 32
Stamped envelopes, request	129, 515, 500	2, 918, 760 55
Newspaper wrappers	45, 400, 750	545, 688 25
Postage-due stamps	13, 612, 198	353, 611 00
Postal-cards	362, 876, 750	3, 629, 610 00
Official postage-stamps	3, 389, 440	140, 045 00
Official stamped envelopes and wrappers	1, 811, 600	20, 136 26
Aggregate	2, 166, 130, 396	41, 515, 877 18

The requisitions upon which these supplies were issued number 451,282.

POSTAGE ON SECOND-CLASS MATTER.

The amount of postage collected on second-class matter during the year was \$1,889,592.14, an increase of \$184,414.61, or 10.82 per cent., over the previous year.

Of the receipts from this source 24.90 per cent. was collected at New York; 9.41 per cent. at Chicago; 6.42 per cent. at Boston; 5.08 per cent. at Philadelphia; 4.67 per cent. at Saint Louis; 3.53 per cent. at Cincinnati; 1.82 per cent. at San Francisco; 1.54 per cent. at Milwau-

kee; 1.51 per cent. at Detroit; 1.32 per cent. at Louisville; 1.22 per cent. at Cleveland; 1.20 per cent. at Elgin, Ill.; 1.15 per cent. at Washington; 1.09 per cent. at Saint Paul; 1.06 per cent. at Augusta, Me.; 1.05 per cent. at Toledo; 1.05 per cent. at Pittsburgh; .88 per cent. at Baltimore. The remaining 31.06 per cent. was collected at 5,767 post-offices.

REGISTRATION.

The number of letters and parcels sent through the registered mails during the year was 11,246,545, of which 8,068,338 were domestic letters, 466,902 were letters addressed to foreign countries, 1,005,865 were domestic parcels of third and fourth class matter, 29,488 were parcels of third and fourth class matter to foreign countries, and 1,675,952 were letters and parcels of official matter for the Government, by law free from the payment of registry fees. The amount of registry fees collected was \$957,059.30, an increase of \$30,509.60, or 3.3 per cent., over the previous year.

The actually ascertained losses during the year numbered 516, or one in every 21,795 letters and parcels registered. This is a smaller proportion of loss than in any previous year, and shows increasing efficiency and fidelity on the part of postal officials in this branch of the service.

DEAD LETTERS.

The gross receipts of articles of undelivered mail matter during the year were 4,751,872, being an increase of a little more than 8 per cent. over the previous year. There was a decrease in the held-for-postage matter received of 44,681, or about 34 per cent., which was caused by the reduction of postage on letters (many of those which were formerly detained for postage in cities having been actually prepaid by a 2-cent stamp,) and the changed method of treating such matter in post-offices. The new practice is to require postmasters to notify the persons addressed that their letters or parcels are withheld for prepayment of postage, and to forward the articles to destination upon the receipt of the amount due. Under previous regulations, the matter was sent to the Dead-Letter Office, and the notice sent from there.

There was an increase in other classes of matter as follows: misdirected letters, 12.6 per cent.; foreign letters, 12.3 per cent., and in letters returned from abroad, 19.3 per cent. Of the letters and parcels containing merchandise, jewelry, books, and miscellaneous articles of sufficient value to be recorded, there was an increase of 18.4 per cent. In opening the letters, it was discovered that 17,387 contained money; 20,261 contained drafts, money-orders, notes, &c.; 34,399 contained receipts, paid notes, &c.; 84,088 contained postage-stamps; and 68,348 contained photographs. Great effort is made to restore letters and parcels to the owners. All those found to contain articles of value are

carefully recorded, so that the final disposition of them can be ascertained at any time.

The amount realized from the sales of articles for which no owners can be found is deposited in the United States Treasury. The proceeds of the last auction sale, which was in January, 1884, was \$1,915.43. The money separated from dead letters which cannot be restored to the sender is also placed in the Treasury, and the amount deposited from that source during the year was \$7,239.47. The value of postage-stamps received from various sources and destroyed was \$2,082.18. The late Postmaster-General Maynard ordered that such useful printed matter as had previously been sold for waste paper should be distributed amongst the inmates of the various hospitals, asylums, and other charitable and reformatory institutions within the District of Columbia. This practice still prevails, and 23,152 magazines, pamphlets, illustrated papers, Christmas cards, valentines, &c., were disposed of in that way during the year.

The report of the Third Assistant Postmaster-General, published in the Appendix, contains full particulars concerning the treatment of dead letters and parcels.

THE APPOINTMENT DIVISION.

The report of the First Assistant Postmaster-General presents the following comparative statement of the number of post-offices established and discontinued, and of the postmasters appointed for the fiscal years ended June 30, 1883, and June 30, 1884:

	June 30, 1883.	June 30, 1884.	Increase.	Decrease.
Number of offices established during the year.....	3, 253	3, 414	161	.....
Number discontinued.....	1, 621	1, 260	.....	361
Net increase over previous year.....	1, 632	2, 154	522	.....
Whole number of post-offices.....	47, 863	50, 017	2, 154	.....
Number filled by appointment of the President.....	2, 143	2, 323	180	.....
Number filled by appointment of the Postmaster-General.....	45, 720	47, 694	1, 974	.....
Appointments were made during the year:				
On resignation and commissions expired.....	7, 734	7, 265	.....	469
On removals and suspensions.....	705	513	.....	192
On change of names and sites.....	342	234	.....	.....
On deaths of postmasters.....	468	477	9	.....
On establishment of new post-offices.....	3, 253	3, 414	161	.....
Total appointments.....	12, 502	11, 953	.....	549
Total number of cases acted on during the year.....	14, 882	13, 841	.....	1, 041

EMPLOYÉS IN THE POSTAL SERVICE.

The following table shows the number of employés in the Post-Office Department; also the number of postmasters, contractors, clerks in

post-offices, railway post-office clerks, and other officers in the service June 30, 1883, and June 30, 1884:

Officers and employés.	June 30, 1883.	June 30, 1884.
DEPARTMENTAL OFFICERS AND EMPLOYÉES.		
Postmaster-General.....	1	1
Assistant Postmasters-General.....	3	3
Superintendent of money-order system.....	1	1
Superintendent of foreign mails.....	1	1
Superintendent of free delivery.....	1	1
Superintendent of railway adjustment.....	1	1
Superintendent of division of post-office supplies.....	1	1
Chief clerk of the Postmaster-General.....	1	1
Chiefs of divisions.....	4	6
Topographer for Post-Office Department.....	1	1
Disbursing officer and superintendent of building.....	1	1
Law clerk.....	1	1
Stenographer.....	1	1
Appointment clerk.....	1	1
Chief clerks of bureaus.....	6	6
Clerks, messengers, watchmen, &c.....	534	534
Total.....	558	561
POSTMASTERS AND OTHER OFFICERS AND AGENTS.		
Postmasters.....	47,863	50,017
Contractors.....	4,944	4,908
Clerks in post-offices.....	8,040	8,340
Letter-carriers.....	3,680	3,890
Railway post-office clerks.....	3,855	3,963
Post-office inspectors and railway-mail superintendents.....	90	93
	69,030	71,671

POST-OFFICES AS SINECURES.

At different times during the year a thorough investigation was made, under the direction of the chief Post-Office Inspector, of all first and second class offices. The result of these investigations was gratifying to the Department. Dishonest and negligent officials were discovered. The former were removed, and the latter reprimanded and more fully instructed in their duties. In a large number of cases where postmasters were discovered to be short in their accounts it was owing to negligence or a lack of ability to manage the affairs of their offices. Too many postmasters feel warranted in regarding their positions as sinecures and feel free to give their attention to other business, content to draw their salaries as officials, leaving the work of managing their offices to others. This should not be allowed. Postmasters at first and second class offices should be required to give their entire time to their official duties, and should not be permitted to engage in any other business that requires any portion of the time for which they are paid by the Government. This result should be brought about if it requires a statutory enactment to effect it.

THE FREE-DELIVERY SYSTEM.

The system was extended during the year to the cities of Chattanooga, Tenn.; Los Angeles, Cal.; Montgomery, Ala., Ottumwa, Iowa, and Scranton, Pa., making the total number 159. The number of carriers was increased 210, making a total of 3,890 at the close of the year.

The appropriation for this service was \$3,500,000, to which was added, in anticipation of a deficiency, \$14,653.40; making a total of \$3,514,653.40. The total cost of the service was \$3,504,206.52, leaving an unexpended balance of \$10,446.88. The increased appropriation over that of the preceding year was \$314,653.40 and the increased expenditure \$330,870.01. The increase in the expenditure was owing to the extension of the service to additional cities; to the increase of the number of carriers at the old offices, and their promotion under the act of August 2, 1882, which provides for an annual increase of \$200 in the salary of each carrier in cities of the first class till the maximum (\$1,000) is reached, and in cities of the second class till the maximum (\$850) is reached.

POSTAGE ON LOCAL MATTER.

The postage on local matter at the several offices aggregated \$4,777,484.87, an increase over that of the preceding year of \$417,745.65, and over the total cost of the service \$1,273,278.35; an increase of 9.95 per cent. in the former and 36.33 per cent. in the latter. The average cost per piece for handling matter was 2.3 mills, a reduction of one-tenth mill as compared with last year. The average cost per carrier was \$898.78, an increase over that of last year of \$38.83. This was owing to the fact that the number of carriers receiving the maximum salary was considerably increased during the year under the provisions of the act of 1882.

The mail matter delivered during the year was as follows: Mail letters, 402,577,395, an increase of 17.70 per cent. over that of the preceding year; mail postal cards, 97,421,725, increase of 13.10 per cent; local letters, 121,853,932, increase of 16.68 per cent.; local postal cards, 69,230,704, increase of 14.48 per cent.; registered letters, 3,093,961, an increase of 9.32 per cent.; newspapers, 231,645,185, an increase of 13.79 per cent.

The mail matter collected was as follows: Letters, 414,198,891, an increase over that of last year of 19.95 per cent.; postal cards, 130,057,314, an increase of 12.98 per cent.; newspapers (including circulars), 70,475,010, an increase of 8.84 per cent.

The pieces of mail matter delivered and collected aggregated 1,540,554,117, an increase of 16.30 per cent.; and the average number by each carrier, 396,029, an increase of 10.02 per cent.

For fuller details on this subject see tabulated statement in the report of the First Assistant Postmaster-General.

Experience has shown that the delivery by carrier is more acceptable than the old custom of calling at the post-office; that it tends to more thoroughness and accuracy in the delivery of letters; that it diminishes the number of dead letters, and diverts to the post-office many letters that would otherwise be delivered by private expresses and messengers; that it stimulates correspondence, both mail and lo-

cal, and largely increases the postage on the latter; that it saves time to the people and fruitless calls at the post-office, and yields a large surplus of postage on local matter above its cost.

There are in the more densely populated parts of the country certain towns within short distances of one another, each with its separate post-office, having in the aggregate the required population and revenue, but which cannot be reached under the present law, as none of them singly has the required qualifications, viz, 20,000 population within its corporate limits or \$20,000 postal revenue.

In my judgment the law should be so changed as to permit the aggregation of population and the postal revenue of these towns, and the service should be extended to them when they meet the requirements of the law. The result would be a diminution in the number of offices and a more satisfactory and economical service.

As bearing directly upon this subject, I append one or two paragraphs from a letter of July 19, 1883, from the General Post-Office, London, as follows:

“There is certainly no village and but few hamlets in the United Kingdom without a delivery of letters, &c., from house to house, and that in certain thinly inhabited districts the letters are not delivered every day; they are still delivered twice or more, usually three, times a week.” * * * “As a rule, all towns and most of the considerable villages have two deliveries of letters from house to house every week day.” * * * “In the London postal district, which comprises an area of about 216 square miles, the number of deliveries on week days ranges from twelve in the central or ‘town’ district to three in a few of the outer suburban districts, where the population is comparatively sparse.”

For more detailed information concerning the operations of this service at each office, see table on p —.

REDUCTION OF POSTAGE ON LOCAL LETTERS.

The free-delivery service has now reached that period in its history when it is largely self-sustaining, the surplus over the entire cost of the service having gradually increased for the past ten years until, during the last fiscal year, it amounted to \$1,273,278.25. I feel, therefore, that I can with great propriety urge the reduction of postage on local letters to one cent, the single rate. The reasons for such reduction seem to me stronger than those presented for the reduction of postage on mail letters to two cents. Letters which are strictly local in character involve but comparatively little expense to the Department in their handling, and therefore the impression very generally prevails in cities where the free-delivery service is in operation that the present local rate of postage (two cents) is excessive; at least, that it is immoderate in comparison with the transmission by mail and delivery by carrier,

of a letter from New York to San Francisco, for the same amount of postage.

So far as known, the reduction of the rate on mail letters has met with great favor, and the public undoubtedly believes that it should be the aim of a prosperous government to reduce the rates of postage on mail matter whenever practicable. Considering, therefore, the very large revenue derived from the letter-carrier service during the past year, the time seems propitious for a reduction of the postage on local letters to one-half their present rate. I am confident that such a change would result in a very considerable increase in the number of local letters mailed, and that the free-delivery revenue would not be so greatly impaired thereby as to prevent it from again reaching the present amount in a few years.

SPECIAL STAMP FOR SPECIAL DELIVERY.

The necessity and demand, in cities, for prompt transmission and delivery of letters passing between business men and others has resulted in the establishment, in many places, of what may be termed letter-express companies, which, by the employment of messenger boys, are enabled greatly to facilitate intercourse of this character among merchants, professional persons, and others engaged in active life. It is done at a small expense and with so much system and promptness as seriously to diminish the revenues of the Department at several letter-carrier offices.

The patronage which is extended to these companies affords evidence that the free-delivery system, notwithstanding its facilities and benefits, has not progressed so far as to meet all the wants of energetic business life in large commercial cities. Therefore further improvement of the service in this particular should, in my judgment, be attempted, not only to prevent a loss of revenue, but with a purpose to make it as useful as possible. I am of opinion that the public have a right to expect that this Department should make the same effort to serve them promptly and faithfully in the transmission and delivery of letters as is done by private parties.

I know of no way in which this can be better accomplished than by the use of a special postage-stamp for letters mailed and intended for special and prompt delivery at free-delivery offices. This stamp should be of the denomination of ten cents, and, when affixed to a letter, in addition to the proper postage charge, should insure for it as speedy a delivery as possible after its reception at any letter-carrier office. This outside distribution could be effected by employing messenger boys, at a small salary, and in such numbers as the circumstances should warrant. I am satisfied such an effort to accommodate the public would still further commend the free-delivery service to its patrons in the large cities where it is in operation.

SALARIES OF PRESIDENTIAL POSTMASTERS.

The first *annual* adjustment of the salaries of Presidential postmasters was made to take effect July 1, 1884, in accordance with the requirements of the act of Congress approved March 3, 1883.

The gross receipts of the 2,323 Presidential offices for the four quarters ended March 31, 1884, amounted to \$33,031,697.33, or 74.8 per cent. of the entire revenue of the Department for the same period. The aggregate salaries of Presidential postmasters amounted to \$3,828,700, or 11.59 per cent. of the gross receipts accruing at their respective offices.

The following tabulated statement shows the results of the *first* adjustment under the new law, which took effect October 1, 1883, and the *first annual* adjustment, from July 1, 1884, viz:

Date.	Number of Presidential offices.	Aggregate salaries of Presidential postmasters.	Average salary of Presidential postmasters.	Aggregate receipts which accrued at Presidential offices.	Per cent. of aggregate receipts absorbed for postmasters' salaries.	Per cent. of entire revenue of Department which accrued at Presidential offices.
Oct. 1, 1883	2,195	\$3,707,500	\$1,689	\$33,535,253 95	11.06	74.28
July 1, 1884	2,323	3,828,700	1,648	33,031,697 33	11.59	74.80

CLERKS IN POST-OFFICES.

The appropriation for clerks in post-offices for the present fiscal year is inadequate for the service. The Department has been obliged to make reductions in order to keep the expenditures within the limited appropriation. Although this reduction was necessary, it was an apparent injustice to many postmasters whose allowances were already too small.

The increase of letter-mail occasioned by the reduction of postage, and the extension and growth of the postal service, require, it is estimated, an increase of about twenty per cent. of clerical labor.

Post-office clerks as a rule are not overpaid. Their duties are exacting and require close attention. Separating clerks, or clerks at offices where mail is distributed for other offices, are especially deserving of consideration. Their salaries are not sufficient to induce them to take proper interest in their work. I hope the estimate for this service for the coming fiscal year will be approved by Congress.

STANDARD OF WEIGHT FOR FIRST-CLASS MATTER.

I renew the recommendation of my predecessor, that the unit of weight in rating letters and sealed packages (first-class matter) be changed from one-half ounce to one ounce.

By careful investigation in several large offices it is found that less *than* six per cent. of all the letters conveyed in the mails exceed half an

ounce in weight. It is evident, therefore, that an increase of the unit of weight to one ounce would diminish the revenues but very little, and there is reason to believe this diminution would be more than compensated by the increased postage on small packages, which, heretofore sent as third or fourth class matter, would, in the event of the proposed change, be sealed and sent as first-class matter.

It is also believed the proposed change would result in a material saving of time to post-office clerks, by largely obviating the necessity of examining unsealed packages with a view of detecting written matter, and would diminish the number of losses in small packages, since sealed matter is less liable to loss than that which is unsealed.

TRANSMISSION THROUGH THE MAILS OF BOTANICAL SPECIMENS.

At a recent meeting of the American Association for the Advancement of Science, a resolution was passed requesting the Postmaster-General to recommend such changes in existing postal laws as will permit the transmission through the mails of botanical specimens accompanied with the customary written labels, giving name, locality, date of collection, and collector's name, at fourth-class rates of postage.

Under the present law, botanical specimens with printed labels giving the desired information may be sent through the mails at fourth-class rates of postage, but such labels in writing subject the matter to first-class rates. It would seem to be in the interest of science that the law should be amended in this regard, and I so recommend.

I may add that the representatives of this Department to the Congress of the Universal Postal Union, soon to meet at Lisbon, Portugal, will be requested to bring this subject before that body, with a view to having the Paris convention similarly amended in the interest of science.

OFFICIAL BONDS.

In his annual report for 1883 the honorable Secretary of War invited attention to the need of legislation upon the subject of official bonds. In speaking of bonds for paymasters he said:

"It would be of great advantage to such officers if they were permitted by law to furnish as security the obligation of some approved guaranty company organized for the purpose of indemnifying employers in this manner. At a small cost to themselves, officers would be saved much repeated embarrassment, and I confidently believe that the security to the Government would be much increased. Doubt is entertained whether, under existing laws, the Secretary of War is authorized to accept as surety any such company, and I have therefore declined to do so. I recommend, however, that the existing laws on this subject be so amended as to authorize the head of a Department to accept corporate as well as individual sureties upon official bonds."

This applies with almost equal force to the officers of the Post-Office Department who are required to give bond. A very large per cent.

the bonds given by postmasters prove to be worthless, and a great deal of time is consumed by the Department in obtaining a satisfactory bond.

Experience teaches me that in far too large a number of cases the Government fails to recover on the bond of a defaulting officer.

I agree with the Secretary of War, that a more efficient administration would be obtained if corporate surety were allowed in lieu of individual surety. The sense of personal obligation influences the discipline of the service and takes control of the agent, which would be obviated if the officer's position in that respect were independent. In large cities the approval of a great many of the bonds of employés has become, from necessity, so much a matter of form, that, as a natural consequence, the Department may be in receipt of worthless personal bonds, against which at present there is no remedy.

The solvency of individual surety is at all times a matter of uncertainty, and the ability of the bondsman to meet the obligation he assumes is never positively known until action has been taken to recover under the bond, while the evidence of the solvency of a corporation may always be established, and the condition of each bond brought to the attention of the head of the Department annually.

I understand that the system of corporate suretyship has been in successful operation in England for many years, and for the past ten years has been adopted by the Post-Office Department, internal revenue, and high court of justice.

I recommend that the existing laws on this subject be so amended as to recognize the sufficiency of the surety of a properly organized and approved company on the bonds of postmasters, letter-carriers, and such other officers of the Department as are required to give bond.

Under date of July 15, 1882, Postmaster-General Howe, in a letter to the President of the Senate on this subject, said :

“Corporations now exist for the express purpose of furnishing such securities. They exist in New York and in Canada; they are quite common in some countries of Europe. Railway companies already furnish employment for them by requiring their ticket agents, conductors, and other bonded agents to get such a corporation to underwrite for them. It is perhaps not safe to say that such sureties might not be received upon official bonds under the law as it now stands. So far as I know, they have not been so received heretofore. Unless expressly authorized by law, departmental officers will probably be reluctant to accept such security.

“In many ways I am confident it would profit the Government if such suretyship could be employed. Officials are now obliged to appeal to their friends to sign their bonds. Under the existing system of inspection it is impossible to avoid in all cases the acceptance of irresponsible security. Such security is, in fact, accepted in quite too many cases. But if sureties are responsible at the time of acceptance, they are not sure to be so when called upon to respond; or, if they are able

to respond, attorneys are not always vigilant to prosecute nor are marshals to collect; and almost always great pressure is applied to the accounting officers to effect a compromise. If a corporation, whose solvency is guarded by wholesome laws and which underwrites for a consideration, should give the security, all these difficulties would disappear.

“Such a company could no more refuse to respond to a loss by defalcation than to a loss by fire. There is also reason to believe that the supervision of such an underwriter over the habits and conduct of officers would tend to secure a better class of servants. The fact that railway companies seek such sureties upon the bonds of their employes affords a business example which I think the Government might safely follow, if its affairs are to be conducted upon business principles.”

I respectfully invite the attention of Congress to this subject.

BOXES, BOX RENTS, KEYS, AND KEY DEPOSITS.

Post-office boxes serve a three-fold purpose, to wit: 1st, as an accommodation to box-holders; 2d, as a convenience to postmasters; and 3d, as a source of revenue. They are classed as call-boxes, lock-boxes, and lock-drawers, and are provided in the four following methods, to wit:

1st. At post-offices located in Government buildings, which are furnished by the Treasury Department.

2d. At post-offices of the first and second classes located in buildings provided for by this Department either by lease or by an allowance for rent made to the postmasters.

3d. Under section 4052, Revised Statutes, which provides that box-holders may erect, for their own use and at their own expense, fixtures, which, upon being erected in post-offices, are regarded as the property of the United States. In all other cases the necessary boxes must be provided for and kept in repair by the postmasters themselves.

The revenue derived from the rent of boxes at Presidential post-offices is divided between the Department and the postmasters. The revenue so derived is included in the gross receipts upon which the salaries of postmasters are annually adjusted. At fourth-class offices all box rents go to the postmaster, no part thereof inuring to the Government.

The law providing for the distribution of this revenue takes no account of the ownership of the boxes. In this respect it operates unjustly. Those postmasters who provide their boxes entirely at their own personal expense receive no greater proportion from the proceeds therefrom than do postmasters who are provided with box outfits at the expense of the Treasury or at the expense of the Post-Office Department.

This is not equitable. If the former are sufficiently compensated, the latter receive more than is just. If the latter receive only reasonable compensation, the former are not adequately remunerated. When we consider that boxes are a great labor-saving contrivance to the post-

master, as well as an accommodation to the public, and revenue producers also, it is impossible to find any equitable basis for a claim to a share of the box-rents upon the part of those postmasters who provide neither boxes nor the space occupied by them. On the other hand, it is equally difficult to discover any equitable basis for a claim by this Department to a share in the box-rents at those offices where the Government renders no service and incurs no expense.

In my opinion the law should be so amended as to place the entire box-rent revenue to the credit of the party who provides and maintains the boxes, and who pays the rent of the room or the space occupied by the boxes.

A more practical and a much more just system than the present would be one in which the Post-Office Department should provide the necessary box outfits, pay the rent of buildings, and receive the full amount of box-rents in all the Presidential offices.

In fourth-class offices postmasters should, as now, provide the boxes, pay the rent, and receive the full benefit of all box-rents collected by them.

Section 300 of the Revised Statutes provides that "no box at any post-office shall be assigned to the use of any person until the rent thereof has been paid for at least one-quarter in advance." This provision has been held to apply to fourth-class, as well as Presidential offices, although the Government derives not one farthing of income from the box-rents collected at fourth-class offices, and has no interest whatever in the enforcement of the law in such cases. The postmasters at such offices are the sole beneficiaries. Many such postmasters regard the advantages of box-rents in the delivery of mail as a satisfactory offset to the expense of providing the same.

Many who are merchants as well as postmasters, and whose post-offices are located in their store-rooms, find that by furnishing boxes without cost to the patrons of their offices they may secure and retain many desirable customers in their business. They therefore prefer to furnish boxes free of rent, and in many cases they evade the strict letter of the law, and virtually accomplish their purpose of charging merely nominal rental prices.

Inasmuch as the Department receives no part of the box-rents collected at fourth-class post-offices, there appears to be no good reason why postmasters at such offices should not be permitted to exercise a discretion as to the assignment of boxes for the use of their patrons free of rent when in their judgment it is to their interest to do so. In short, the true policy in this matter would seem to be to encourage the general introduction and extension of such facilities whenever it can be done without cost to the Government and without diminishing its revenue. The final and permanent effect of such a policy could not fail to benefit the service in every respect. In my opinion section 300, Revised

Statutes, should be so amended as to except post-offices of the fourth class.

Hitherto the Post Office Department has attempted to exercise but little supervision of lock-boxes in respect to the character of the locks placed thereon. Postmasters who provide their own boxes have generally been permitted to determine the style and pattern of the locks, the result being, of course, that many boxes have been provided with cheap and comparatively worthless locks that are very little or no protection to the mails placed therein. It is the practice, well nigh universal, to re-rent lock-boxes that become vacant without changing the locks thereon. As there is no possible means of preventing key-holders from procuring duplicate keys from private locksmiths and retaining the same after vacating their boxes, it may happen that there are many keys in existence of which postmasters and present box-holders know nothing. In this way the security of the mails placed in the lock-boxes is jeopardized.

The Post-Office Department neglects no precaution for the protection of mails in transit, and provides, at no inconsiderable expense, the very best and most approved locks for mail bags that are handled only by its sworn agents, while the security of the mails placed in post-office boxes accessible to the general public is left to the caprice and parsimony of postmasters who, in many cases, are not qualified to decide upon the merits of the different locks. In my opinion, the Post-Office Department should be authorized to prescribe the kind of locks that may be placed upon post-office boxes, and postmasters should be forbidden to place any article of mail in a lock-box not secured by a lock approved by the Department.

The strictest regulations concerning the use of keys of lock-boxes should be rigidly enforced. Postmasters are permitted, by present regulations, to exercise their own discretion in respect to deposits for keys provided by themselves, and, on the other hand, they are required, more strictly than ever before, to account to the First Assistant Postmaster-General for all key-deposits actually collected. There seems to be but one thing needed to perfect the present key-deposit system, and that is the authority, by act of Congress, to enable the Post-Office Department to enforce this regulation in the case of retiring postmasters who fail to turn over their key-deposit funds to their successors in office.

The protection of the rights and interests of the patrons of post-offices should be held a sacred duty, and the efforts of the Post-Office Department to bring about such protection should receive the sanction and support of Congress in the enactment of a carefully-prepared statute.

LEASES.

I again invite the particular attention of Congress to the subject matter of leasing buildings and premises for post-offices.

The Department has been greatly embarrassed for the want of a well-defined law on this subject. I am of the opinion that it is the duty of the Government to provide buildings and proper facilities for the transaction of postal business.

The records show that roomy, well-arranged and well-furnished offices not only facilitate the transaction of business, but very largely increase the revenues of the Department. Suitable rooms with suitable fixtures can only be secured by leasing for a term longer than that now authorized by law, and longer delay in giving this authority will prove embarrassing to the Department and hurtful to the service.

ALLOWANCES FOR THIRD-CLASS OFFICES.

I renew the recommendation made last year that Congress provide for the office rent, fuel, light, stationery, and miscellaneous items at third-class post-offices. I know of no reason why these expenses should not be paid at third-class post-offices as well as at first and second class offices.

REVIEW OF THE SALARIES OF POSTMASTERS OF THE THIRD, FOURTH, AND FIFTH CLASSES, UNDER THE ACT OF MARCH 3, 1883.

Under the act of Congress approved March 3, 1883, as construed by the honorable Attorney-General of the United States, under date of February 13, 1884, and reaffirmed June 14, 1884, the work of reviewing the salaries of postmasters and ex-postmasters of the third, fourth, and fifth classes is now progressing as rapidly as possible with the limited force assigned to that duty.

The period covered by the said act is from July 1, 1864, to June 30, 1874, although under the biennial system of adjustments actual benefits which may accrue to postmasters date from July 1, 1866.

The aggregate additional amount found due to postmasters and ex-postmasters to the present time is \$158,447.73, \$45,213.80 of which has been provided for in "An act making appropriation to supply deficiencies in the appropriations for the fiscal year ended June 30, 1884," approved July 7, 1884, leaving the aggregate amount of \$113,233.93 unprovided for at this time.

The progress of this work to the present time is shown in the report of the First Assistant Postmaster-General.

In connection with this matter I invite the attention of Congress to the subject of fixing a limit to the presentation of claims of this character, and would respectfully suggest that some date in the near future, say January 1, 1886, be fixed as a limitation for the presentation of claims under the said act.

I also recommend that the estimate which has been made in the usual way for a temporary force of ten clerks for this service shall, if approved and authorized by Congress, be made to take effect from the

passage of the act in which the employment of the clerks shall be provided for.

INK AND PADS FOR CANCELING PURPOSES.

The appropriations for supplying post-offices, especially those of the fourth class, with ink and pads for stamping and canceling purposes have not been as liberal as the circumstances required. These articles are a necessity in all offices in order that the letters may be properly postmarked and the stamps effectually canceled. It is also desirable that they should be furnished by the Department, instead of by postmasters, and at their expense, as is now frequently the case, in order that uniformity in quality and color of ink used may be secured.

To secure perfect and uniform cancellation, every post-office in the country should be furnished with a complete outfit for that purpose. In addition to this an appropriation should be made for the purpose, and the Department should be empowered to procure the very best quality of indelible canceling ink, and furnish the same to every post-office. In no other way can the confusion and delay in the transmission and delivery of mail matter be remedied, and the loss of revenue to the Department from imperfect cancellation be saved.

EXTENT AND COST OF TRANSPORTATION, JUNE 30, 1884.

The statistics of the inland mail service, June 30, 1884, are as follows:

The number of routes in the star service was 11,729; the length of the routes, 226,779 miles; the annual transportation, 81,109,052 miles at a cost of \$5,089,941, being about 6.28 cents per mile.

The number of routes in the steamboat service was 117; the length of the routes 15,591 miles; the annual transportation, 3,882,288 miles, at an annual cost of \$596,573, being about 15.37 cents per mile.

The number of routes in the railroad service was 1,573; the length of the routes, 117,160 miles; the annual transportation, 142,541,392 miles, at a cost of \$15,012,603 (exclusive of \$3,979,362 for railway postal clerks), being about 10.53 cents per mile.

There were 4,908 contractors for carrying the mails on inland routes. The number of offices supplied by mail messengers was 5,295, at an annual cost of \$863,313.

The number of special offices was 2,423, each office being supplied by a special carrier whose compensation is not to exceed two-thirds of the salary of the postmaster.

An exhibit of the service, with tabular statements, appears in the report of the Second Assistant Postmaster-General, hereto annexed.

STAR SERVICE.

The star service is maintained with as much efficiency as is attainable under existing laws. There is need of new legislation touching this branch of the service, and I approve and strongly commend to the

favorable notice of Congress the bill prepared to meet this need by the Second Assistant Postmaster-General, which will be found in detail in his report. He is, from long experience, familiar with the needs of this service, having been instrumental in effecting already many reforms, and from these facts his comments upon the bill deserve due consideration.

The bill referred to aims to prevent the continuance of certain abuses in this branch of the postal service. If it should become a law it would have the effect of breaking up what is known as speculative bidding, which now secures, as shown by the Report of the Second Assistant Postmaster-General, "over three-fourths of the routes annually advertised," greatly to the detriment of the service. It would throw the contracts for carrying the mails, in great part, into the hands of persons residing on, or in the vicinity of, the various routes to be let, resulting in most instances in a vastly more efficient service. These desirable ends, together with the removal of some needless restrictions which now work to the disadvantage of both the carriers and the Government, will be attained by the passage of this bill, which has my unqualified approval as being in a line with other previous reforms in the star service.

The average annual cost of the star service for five years preceding 1884 has been \$6,194,802, with an average mileage of 75,960,055 miles, at a little over 8 cents per mile.

For the year ended June 30, 1884, the cost of the star service was \$5,089,941, with a mileage of 81,109,052 miles, at a cost of about 6¼ cents per mile. In other words, a large increase in the mileage has been accompanied with a very great reduction in the cost—the cost per mile being reduced nearly 24 per centum.

Section 620 of the regulations of 1879, which prescribed a method of adjusting compensation for expedition, has been rescinded, because it grew out of an unwarranted construction of the statute and was deemed unsafe.

The recommendations of the Second Assistant Postmaster-General in reference to the legislation that is needful are so moderate and yet so necessary that I am certain the star service will not attain to any higher grade of perfection until this legislation is effected.

RAILWAY SERVICE—ESTIMATES FOR PREVIOUS YEARS.

I would call attention to the difference that has existed in previous years between the estimates and the appropriations for railway transportation.

In practice, section 3679 Revised Statutes, which requires the Department to keep expenditures within the appropriations, has been inoperative so far as the railway mail transportation is concerned. An examination of the estimates submitted and the amounts appropriated since 1880 will disclose a wide divergence between the respective sums. There has resulted the necessity for a series of deficiency appropria-

tions which delay from nine to fifteen months the payments for regular service duly performed. This is neither business-like in the Department nor fair to the carriers, and can easily be corrected by annual appropriations sufficient to cover the cost of the whole service.

REVISION OF LAWS GOVERNING POSTAL TRANSPORTATION BY RAILROADS.

Since the last annual report the report of the committee on the revision of laws governing postal transportation by railroads has been submitted. This report has been printed, and its leading recommendations embodied in a bill which is now before Congress. The Second Assistant Postmaster-General has made an elaborate analysis of this whole question in a paragraph in his report, entitled "Railroad Rates," to which I would call careful attention. The largest single item of expenditure annually is for railway mail service, and it is important that the rates paid should be arrived at by some equitable method.

In 1834 the mails began to be carried on the railroads, and in the intervening fifty years legislation has touched this subject but four times; once (in 1838) to pay not more than 25 per centum above what stage-coach service would cost; once (in 1839) to fix a maximum of \$300 per mile; once (in 1845) to classify the roads and pay \$50, \$100, and \$300 per mile, with 25 per centum additional if one-half the service were performed at night; and again (in 1873) the present method was enacted. This system is an improvement on what went before, but is still objectionable, since it undertakes to pay for weight chiefly, and yet, as will be seen in the section of the Second Assistant Postmaster-General's report already referred to, the pay per ton per mile ranges from 8 to 96 cents. And this wide inequality is made greater by reason of the fact that the low rate of pay does not correspond to a low grade of service, nor the high rate to a high grade of service, but the reverse.

Manifestly there is need of once more revising this most important work, and I would strongly recommend that the bill proposed be given careful consideration, that, for the sake of economy and justice, this measure may become the law for the future guidance of this Department.

RAILWAY MAIL SERVICE.

All railway postal clerks are appointed for a probationary period of six months, during which time their fitness and capacity for the service are tested. They are examined monthly as to their knowledge of the postal laws and regulations, as well as the practical workings of their office. If, at the expiration of this probationary period, they have proven themselves competent, they are given a full appointment at class one. After an appointment in class one, all clerks are promoted according to merit, when vacancies occur.

It usually takes a clerk several years to work his way up to class five, which is the highest grade. The clerks of this class are in charge

of an office in a car which is known as a railway post-office, and usually have several clerks under their direction.

There are at the present time about four thousand clerks in the railway mail service, many of them having been so employed a great number of years. The amount of special study that these clerks have devoted to the duties of their office would have made them proficient in almost any of the professions of life.

In the very nature of the case, the places of these skilled clerks, who have made their work a life study, cannot be filled with new appointees without great detriment to the service. The injustice to the men themselves might be left out of the question, but the system by which they have fitted themselves for their posts, and the maintenance of a good service, demand that this branch of the postal service be continued in the line of its present successful development.

As experienced clerks are absolutely indispensable to an efficient service, it could not do other than work confusion and delay to the whole mail system of the country if the present force should be set aside and new and inexperienced men be put in their places. About thirty per cent. of all clerks appointed fail to pass satisfactory examinations, and are retired. It will thus be seen that a far greater number of clerks have been appointed than are now in the service; but by this sifting process the Department has secured the most active and efficient clerks. And I venture to say that no more worthy, competent, and efficient corps of men can be found in any branch of the Government service.

During the past twelve years not a single clerk has been removed without good cause, and that cause has been incompetency, intemperance, or neglect of duty. By such means the clerks have, in great measure, felt secure in their tenure, and have devoted themselves with all energy to the best interests of the service. And, as the retention of the present force of postal clerks is essential to the integrity of the mail service—if the tenure of this class of employés cannot be made secure under the civil service law now on the statute books—I would recommend that Congress enact a law whereby railway postal clerks shall be secure in their positions, and be liable to removal only for one of the following causes, viz, incapacity for the duties of the office, disobedience of official instructions, inattention to or neglect of duty, intemperance, or conduct unbecoming a gentleman. Through such permanency the present method would be complete, and, with this safeguard thrown around them, the postal clerks would feel that they could give up all thought of other employment and devote all of their active life to the perfection of this branch of the public service, which now presents a good illustration of practical civil service, and needs only permanency to perfect it.

For years promotions have been made on merit alone. All the officers have worked their way up from the lowest grade to their present

positions, so that each and every man holds his situation by reason of his competency and thorough knowledge of the service.

I have dwelt in detail upon this feature of the needs of the Railway Mail Service because I deem it important. The present General Superintendent of the Railway Mail Service has frequently urged that this measure of permanency in appointment is necessary to the perfection of the mail service, and one of my predecessors transmitted a bill to Congress with his approval embodying the main features here set forth.

FAST MAIL SERVICE.

During the past year the service on the trunk lines has been very materially improved.

For some years the New York Central and Hudson River Railway and the Lake Shore and Michigan Southern Railway have been running a fast mail train, leaving New York at 8.50 p. m. and arriving at Toledo, Ohio, at 4.55 p. m. of the following day, making connection with the fast mail train on the Wabash, Saint Louis and Pacific Railroad, and a direct connection for Saint Louis. The mails for Chicago and the West, which formerly arrived at Toledo on this train, were held there about three hours and taken on a slow train to Chicago, arriving there at 6 a. m.

Commencing Sunday, March 9, 1884, an arrangement was made with the Lake Shore and Michigan Southern Railway Company whereby the train leaving New York at 8.50 p. m. was continued through from Toledo to Chicago as a special fast mail train, arriving at the latter point at 12.35 a. m. In connection with this an arrangement was made with the Chicago, Burlington and Quincy Railway Company to put on a special fast mail train to leave Chicago at 3 a. m., arriving at Omaha at 7 p. m. of the same day. This arrangement went into effect March 11, 1884.

The Chicago, Milwaukee and Saint Paul Railway Company also put on a fast mail train, leaving Chicago at 3 a. m., arriving at Saint Paul at 3.30 p. m. and at Minneapolis at 4 p. m. This train commenced running March 13, 1884.

In connection with the fast mail train on the Chicago, Burlington and Quincy Railway, the Illinois Central Railway Company changed the schedule of its main line so as to make a close connection with the fast mail on the Chicago, Burlington and Quincy Railway, north and south, at Mendota, Ill., and extended its through train from Freeport, Ill., to Dubuque, Iowa, connecting at the latter point with the train for La Crosse, Wis.

These changes on the several roads materially benefit all the Western States and Territories.

By a change of schedule secured upon the Union and Central Pacific railways, which took place soon after the establishment of the fast mail upon the Chicago, Burlington and Quincy Railway, a gain of one business day was made in the delivery of mails at San Francisco. The mail

leaving New York by the evening dispatch arrived in San Francisco at 7.40 a. m. instead of at 8.40 p. m., as formerly. Since that time the schedule has been changed, and this mail now arrives at San Francisco at 11.10 a. m.

The mail for Saint Paul and Minneapolis city delivery is assorted on the fast-mail cars before arrival at those places and given to the carriers at the depot, thus enabling them to make their delivery before the close of the business day. This is a material expedition, as this mail under the old arrangement would not arrive at those places until the next day. A change of schedule was secured on the Northern Pacific Railway, whereby its train left Saint Paul on arrival of the fast mail, making a gain of one full day at Portland, Oreg., and intermediate points.

SPECIAL FACILITIES.

The appropriation for special facilities on trunk lines for the present year is \$250,000. This amount, in my opinion, is being economically and judiciously expended, and great benefit accrues to the public by the expenditure. I therefore recommend a continuation of the appropriation for the coming year, with the increase recommended by the Second Assistant Postmaster-General, making a total of \$266,764.50. In my opinion the fast mail system should be continued and extended as rapidly as circumstances will permit.

FOREIGN MAIL SERVICE.

The total weight of the mails dispatched to Postal Union countries, exclusive of Canada, during the last fiscal year was 1,215,572,391 grams, or 2,679,851 pounds, an increase of 146,861 pounds over the preceding year. The weight of the letter and post-card mails was 225,841,232 grams, or 497,889 pounds, and of the printed matter and sample mails 989,731,159 grams, or 2,181,961 pounds, an increase compared with the preceding year of 16,412 pounds of letters and post-cards, and 130,448 pounds of printed matter and samples. Compared with the weights for the fiscal year 1883 the percentage of increase for letters and post-cards is 3.41 per cent.; for printed matter and sample mails, 6.36 per cent., and for all the mails 5.8 per cent.

Of the correspondence dispatched 39.77 per cent. of the letters and post-cards and 40.92 per cent. of the printed matter, samples, &c., were sent in mails to Great Britain; 23.14 per cent. of the letters and post-cards and 17.28 per cent. of the prints, samples &c., were sent in mails to Germany; 28.86 per cent. of the letters and post-cards and 20.65 per cent. of the prints, samples &c., were sent in mails to other countries of Europe and Turkey in Asia, and 8.23 per cent. of the letters and post-cards and 21.15 per cent. of the prints, samples &c., were sent in mails to Postal Union countries of the western hemisphere (excepting Canada), the Pacific Ocean, Asia (excepting Asiatic Turkey), and Australasia.

The cost of the ocean transportation of mails to and from foreign ports was \$332,221.21, an increase of \$15,699.08, or nearly 5 per cent. over the cost of the same service in 1883. Of this amount \$275,962.74 was for trans-Atlantic service, \$19,125.78 for trans-Pacific service, and \$37,132.69 for West Indian, Mexican, Canadian, Newfoundland, and Central and South American service.

For the territorial and maritime transit of United States mails forwarded through intermediary Postal Union countries during the year there has been allowed, in accounts settled with said countries, the sum of \$30,379.00, and for the United States territorial and maritime transit of the mails of other countries this Department has received credit in such accounts for the sum of \$105,623.51, of which \$102,867.42 was for the trans-continental transit between New York and San Francisco of the British and Australian closed mails.

A count of mail matter exchanged with foreign countries, taken during seven days in each of the months of October, 1883, and April, 1884, furnishes the following approximate estimate of the foreign mail exchanges during the last fiscal year:

Total number of letters sent.....	33,328,014
Total number of letters received.....	28,404,035
Total number of packets of newspapers, other printed matter, business papers, and samples of merchandise sent.....	21,009,512
Total number of such packets received.....	22,267,345
Total number of registered packages sent.....	574,576
Total number of registered packages received.....	666,971
Total number of postal cards sent.....	1,672,458
Total number of postal cards received.....	1,288,673
Prepaid postages on letters sent	\$1,511,947.80
Prepaid postages on printed matter, &c., sent	\$468,293.46
Registration fees on packages sent	\$57,457.60
Unpaid postages on letters and other matter received.....	\$134,481.17
Total postages and registration fees collected in the United States	\$2,198,029.00

It is also shown by this count—

1. That of the correspondence exchanged in both directions, 54 per cent. of the letters, 56 per cent. of the post cards, 49 per cent. of the newspapers, other prints and business papers, and 36 per cent. of the samples of merchandise were dispatched from the United States.

2. That 97.6 per cent. of the letters sent from the United States were fully prepaid, 1.9 per cent. were unpaid or insufficiently prepaid, and 45 per cent. were free of postage.

3. That 95 per cent. of the letters received from foreign countries were fully prepaid, 4.65 per cent. were unpaid or insufficiently prepaid, and 35 per cent. were free of postage.

4. That the amount of postage collected in the United States on unpaid or partially prepaid mail matter received from abroad was nearly 84 per cent. of the total unpaid postage, and \$108,637.20 in excess of the amount of the unpaid postage on mail matter sent.

POSTAL CONVENTION WITH MEXICO.

I had the satisfaction of concluding, on the 20th of October last, with Señor Romero, the Mexican minister, a special postal convention with Mexico, the terms of which had been arranged by my immediate predecessor, Postmaster-General Gresham, and Minister Romero, representing the Mexican Government.

This convention requires ratification by the President and Congress of the Mexican Republic and approval by the President of the United States, and provides for going into operation January 1, 1885. It will materially improve and facilitate postal intercourse between the two countries by its application, to the international exchanges, of the domestic postal regulations and conditions of either country, and dispensing, consequently, with the necessity for the special exchange treatment of mail matter required under the regulations of the Paris convention, and which can only be applied by exchanging post-offices in either country at which the mails must necessarily be detained for such treatment, thereby suffering loss of expedition.

A special arrangement has been concluded with the postal administration of the Argentine Republic increasing the limits of weight and dimensions of packets of samples of merchandise exchanged in the mails between that Republic and the United States from 250 grams (8½ ounces) in weight, and 20 centimeters (8 inches) length, 10 centimeters (4 inches) breadth, and 5 centimeters (2 inches) depth, as prescribed by article 5 of the convention of Paris, to 350 grams (12 ounces) weight, 30 centimeters (12 inches) length, 20 centimeters (8 inches) breadth, and 10 centimeters (4 inches) depth.

A copy of this arrangement is appended (see p. —, Appendix).

IMPROVED SERVICE BETWEEN THE UNITED STATES AND MEXICO.

In consequence of the inauguration of Mexican postal services on the railway lines connecting at the frontier with United States railway mail services, particularly on the line which connects the two countries at El Paso, Tex., and furnishes an unbroken railway route between Vera Cruz, by the way of Mexico City, and the United States, the mails to and from nearly all points in Mexico are now exchanged by railway. Heretofore the great bulk of mail matter was conveyed by sea to and from Vera Cruz, requiring more than twice the time for the transit now taken. This change and the further improvement of Mexican interior postal services which may be confidently looked for in the near future, together with the putting into operation of the special international postal convention elsewhere noticed, will complete a system of postal intercourse between the two republics indispensable to their growing commercial relations, and promotive of international amity.

A new steamship service between New Orleans, La., and Colon, United States of Colombia, touching at ports on the east coasts of Costa Rica

and Nicaragua, recently started, has been employed to a limited extent for the conveyance of mails to the ports alluded to. The shorter route and trips of this service, as compared with the service between New York and Central American ports, make its use for mail conveyance very desirable, should it be permanently established with regular periods of dispatch, in which case the mails for Central and South America originating in the southern and southwestern portion of the United States would be more advantageously forwarded by way of New Orleans than from New York.

EXPEDITION OF THE MAILS TO ENGLAND.

There has been some correspondence between this Department and the general post-office department of Great Britain relative to improving the mail service from that country to the United States.

All mails from New York to Great Britain are forwarded by the steamers which promise the speediest delivery of the mails, without regard to what line the steamer belongs to or the day of sailing.

On the other side a different practice has prevailed, the British mails for this country being dispatched on stated days and by particular steamers without regard to their rate of speed. The result has been that United States mails for Great Britain are generally delivered more speedily than those from that country to this, and it frequently happens that goods ordered from England by American merchants are received some days in advance of the mail containing the invoices. An effort was recently made by the British Department to improve their service in this regard, but it was not successful. In a letter addressed to the late Hon. Henry Fawcett, British Postmaster-General, on the 20th of September, 1884, his attention was respectfully called to the disadvantages resulting to commerce from not sending the mails by the fastest steamers. In his reply, dated October 9, that eminent official—whose recent death Americans in common with his own countrymen deplore—says:

“I need hardly say that it is equally a source of regret to Her Majesty’s Government and to myself personally that our efforts to carry out this desirable change have resulted in temporary failure, owing to some of the principal steamship companies on the Atlantic line refusing to tender their ships for mail service under the altered conditions proposed by the post-office. It was absolutely impossible, with the offers received, to provide an efficient mail service on the days fixed by this Department as most convenient to the public; and in the circumstances, I found it necessary to renew for twelve months the mail agreement which has for some years existed with the Cunard, Inman, and White Star Companies. I still hope to be able to improve the service at no very distant date.”

It is hoped that the untimely death of Mr. Fawcett will not prevent this desirable reform in the British mail service from being pressed to a successful conclusion.

COMPENSATION TO AMERICAN VESSELS CARRYING THE MAILS.

The compensation for transporting the mails to foreign ports by American vessels has always been restricted to a sum not exceeding the sea and inland postage, and the authority for the payment of even that inadequate compensation has been removed. For many years the proprietors of American steamships carrying our mails to distant ports have complained of the insufficiency of the compensation allowed for that service. I am firmly of the opinion that the sea and inland postage is not a reasonable compensation to such lines of American steamships as carry our mails over routes of great length to trans-Pacific, Central, and South American ports.

I am not alone in this opinion. At the second session of the Forty-seventh Congress, Mr. Dingley, from the Joint Select Committee on American Shipping, on the 15th of December, 1882, submitted a report of a joint committee of the Senate and House, in which they unanimously reported as follows :

“The law as it exists (section 3976, Rev. Stat.) compels the master of every American vessel engaged in the foreign trade to carry such United States mails as may be tendered him by the Post-Office Department, and allows him as compensation for such service a sum not exceeding two cents per letter carried. In no case is this an adequate compensation, and in some instances it does not pay the cost to the vessel of delivering the mails at the post-office in the port of arrival. The pay to United States vessels in the foreign trade for transporting the mails in 1880 was only 2½ cents per mile, while at the same time the steamers on our coast which contracted to carry the mails received 57½ cents per mile for mail service. The contrast between our inadequate mail pay to American vessels engaged in the foreign trade and the very liberal mail pay given by Great Britain to her steamship lines only serves to show more clearly the injustice and unwisdom of our policy. Since 1840 England has paid more than \$250,000,000 for mail service, with the deliberate purpose of establishing and maintaining steamship lines to connect the United Kingdom with all parts of the world. Even in the last year she paid about \$3,000,000 to her steamship lines for mail service, which was \$1,641,300 more than she received from mail matter transported by them.”

It is not my purpose to recommend any one of the different measures now pending before Congress in which provision is made for compensating the owners of American vessels for transporting the mails, but to call attention to the embarrassment placed upon the Department by the repeal of sections 3976 and 4203, Revised Statutes, and to suggest that some measure be speedily adopted that will give the Postmaster-General power to enter into contract with American vessels carrying the mails from and after April 1, 1885.

Under existing laws the Postmaster-General has very large discretionary power in regard to the inland mail service, with authority to

contract for, to expedite, and, under certain circumstances, to increase or reduce the compensation therefor, as the good of the service or the public interests may require. By analogy there would seem to be no impropriety in vesting the Postmaster-General with a like discretionary authority, under carefully guarded legislation, in regard to the transportation of our foreign mails.

A fair compensation for carrying the mails to the owners of American vessels plying between our own and foreign ports will, in my opinion, do much to encourage the establishment of American lines of ocean steamers, and advance, in a very large degree, the commercial prosperity of this country.

UNIVERSAL POSTAL UNION.

The adjourned meeting of the Congress of the Universal Postal Union, originally fixed to be held at Lisbon, Portugal, in May last, afterward postponed until October 1, last, and subsequently further postponed in consequence of the prevalence of cholera in portions of Europe, will meet in the city named on the 3d of February next, for the purpose of improving the system of the Union in the light of the experience of its practical workings during the last nine years. Many important modifications of the Paris Convention and regulations are proposed for consideration and decision by the Congress, and the United States has special interest in most of them. Hon. William T. Otto and James S. Crawford, esq., superintendent of foreign mails of this Department, have been appointed the delegates to represent the United States in said Congress.

THE AUSTRALIAN MAILS.

I invite attention to the subject of the mail steamship service between San Francisco and the Australian colonies, which was the subject of extended remark by Postmaster-General Gresham in his report for 1883. The contract for this service between the colonies of New South Wales and New Zealand and the Pacific Mail Steamship Company, which was renewed to go into operation in November, 1883, contains a provision to the effect that New South Wales may withdraw from the contract at the end of twelve months in the event of the Pacific Mail Company not having obtained from the United States Government, or from other sources, a contribution equal to one-third of the total annual subsidy (£50,000) for the contract, and in diminution of the contribution payable by the contracting colonies respectively. The interest of New South Wales in this mail service is naturally much diminished since it entered into contract for a service by the way of Suez, and thus secured a weekly mail service by British steamers between England and Australia.

It seems to be very evident that American aid and a lessening of the time of the service by the way of the San Francisco route, by which it will be made the most expeditious, will be necessary to the maintenance of the latter route, in the continuance of which, for commercial reasons, the United States is largely interested.

MAIL DEPREDATIONS.

The chief Post-Office Inspector sets forth very fully the operations of this branch of the service. The duties devolving upon the Inspector's force are as important as they are difficult and intricate to perform. They are, or should be, the trusted and confidential agents of the Postmaster-General. On these officials must the head of the Department rely to a very great extent in his efforts in behalf of the purity and efficiency of the service. They should be selected not because of the political influence they may be able to bring to bear upon the appointing power, but with an eye single to their special qualifications and fitness for the work required of them.

The total number of cases referred to inspectors for investigation during the year was 50,410; the total number of arrests made for violation of postal laws was 756.

THE POSTAL MONEY-ORDER SYSTEM.

At the close of the last fiscal year there were 6,310 money-order offices, an increase of 383 over the previous year. Their transactions aggregated \$122,121,261.98 in domestic money-orders issued and \$121,971,082.80 in domestic orders paid and repaid, \$7,688,776.53 in international orders issued and \$3,571,066.36 in international orders paid and repaid, the total issues being \$129,810,038.51 and the total payments and repayments \$125,542,149.16. There were received from the public fees amounting to \$950,065.79 on domestic orders issued and to \$170,102.35 on international orders issued, a total of \$1,120,168.14. These totals show gains over the fiscal year 1882-'83 of 4.08 per cent. in the domestic business, and 4.54 per cent. in the international business, and losses of 13.77 per cent. in domestic fees, and .08 per cent. in international fees.

The gross revenue for the year from domestic business was \$241,741.84; from the international money-order business for 1882-'83 it was \$128,665.64, and for 1883-'84 \$115,191.21. After deducting all ascertainable expenses of every kind there was a net profit of \$244,856.81.

POSTAL NOTES.

The following statistics of the postal-note business for the first ten months of its operation, from September 3, 1883, to June 30, 1884, are interesting, inasmuch as they exhibit the large field which this new means of remitting small sums has already occupied, and show the relation, in extent of business done, between the postal notes and the money-orders:

Number of postal notes issued.....	3,689,237
Amount of postal notes issued.....	\$7,411,992 45
Number of postal notes paid.....	3,350,314
Amount of postal notes paid.....	7,155,379 52
Amount of postal notes repaid.....	98,741 43
Amount of fees received.....	110,282 88

Of the total number of transactions the money-orders comprised 68 per cent. and the postal notes 32 per cent. The revenue derived from postal notes up to the close of the fiscal year amounted to \$33,893.39.

MONEY-ORDER FEES AND CLERK-HIRE.

I cannot too strongly urge upon Congress the necessity of so amending the law as to permit the depositing of all fees received from the issue of money-orders and postal notes in the Treasury with other postal receipts. Under a construction of the present law a clerk in a post-office paid from the regular allowance for clerk-hire made by the First Assistant Postmaster-General is not permitted to do any part of the labor required in making out and paying money-orders. This is absurd. Postmasters at first, second, and third class offices should not be allowed any portion of the money-order and postal-note fees. These fees should go entire into the receipts of the various offices, and a sufficient allowance should be made for clerical assistance, without reference to the class of work performed.

A CHANGE IN THE POSTAL-NOTE SYSTEM.

I fully approve the Superintendent's suggestion that the law authorizing the issue of postal notes be so amended as to permit such notes to be drawn payable, like money-orders, to a designated individual or his indorsee, when the purchaser desires it. This may be accomplished by authorizing the issue of an advice at the request of the purchaser, which shall make the note payable only to the person named therein or his indorsee, and such advice, it is thought, may conveniently be drawn upon a "penalty card," to be sent in the open mail without envelope, like a return registry receipt. An advice should be issued only when the remitter of a note desires it, and in all other cases postal notes would be payable to the bearer, a feature which, it is believed, is very acceptable to a large class of the patrons of the system, inasmuch as it obviates the necessity of identifying the holder at the office of payment. Whenever an advice would be issued it would be necessary to keep at the office of issue and of payment a record of the name of the remitter and that of the payee of the note, by means of which record a claim to ownership could be established.

REDUCTION OF MONEY-ORDER FEES.

I also concur in the recommendation of the Superintendent that the fee for money-orders not exceeding \$5 be reduced from 8 cents to 5 cents. From the statement in tabular form annexed to his report it appears that, of the money-orders paid at ten large representative post-offices, five Northern and five Southern, during the week ended October 25, 1884, 359 in every 1,000 orders were for sums not exceeding \$5. Assuming this ratio to hold good throughout the United States, a reduction of the fee on such orders to 5 cents would have occasioned last year a loss of \$84,282.72; a loss which the system, with its present revenue, can well afford.

POST-OFFICE DEPARTMENT BUILDING.

The attention of Congress is invited to the necessity of providing additional accommodations for this Department by the extension of the present building. A bill was introduced in the Senate May 15, 1882, and reported, with amendments, from the Committee on Public Buildings and Grounds, June 15, 1882 (Senate bill 1879, Forty-seventh Congress, first session), to provide for the purchase of a site upon which to erect an extension of the Post-Office Department building. The bill gave authority to purchase or take for the public use that portion of Eighth street, between E and F streets northwest, and also the square numbered 406, bounded by E and F, and Eighth and Ninth streets northwest.

I urgently recommend that the relief sought by this bill be granted by Congress. The present building is now, and has been for a considerable period, totally inadequate to the needs of the service. Business in two divisions of the Department is now conducted in two buildings rented for the purpose, and in one of these the space is already insufficient. It is unnecessary to point out the disadvantages under which the work of the Department is carried on with two divisions located at a distance from each other, and the still greater detriment of having other divisions, or portions of them, removed to rented premises if additional space is not soon provided.

The continued overcrowding of rooms entails impediments to the proper transaction of business. The space required for the storage of the rapidly increasing volume of files and records has been exhausted.

The plan contemplated by the bill referred to was the extension of the present building over the whole of the square mentioned, and an addition to the height of the structure. Provision could thereby be made for the use of a part of the building for the post-office of the city of Washington, giving a central and otherwise convenient location, ample room, with excellent facilities for distribution and other clerical work, and equal facilities for the receipt and dispatch of mails by wagons.

Prompt action is necessary, because considerable time must necessarily elapse, under the most favorable conditions, before the whole or a part of the extension can be completed and be made available for the use of this Department.

FRANK HATTON,
Postmaster-General.

The PRESIDENT.

PAPERS

ACCOMPANYING

THE REPORT OF THE POSTMASTER-GENERAL.

ESTIMATES OF THE APPROPRIATIONS FOR THE POSTAL SERVICE FOR THE FISCAL YEAR ENDING JUNE 30, 1886.

OFFICE OF THE POSTMASTER-GENERAL.

Mail depredations and post-office inspectors, and fees to United States marshals, attorneys, &c	\$250,000 00
Advertising	20,000 00
Miscellaneous items in the office of the Postmaster-General	1,500 00

OFFICE OF THE FIRST ASSISTANT POSTMASTER-GENERAL.

Compensation to postmasters	13,000,000 00
Compensation to clerks in post-offices	5,300,000 00
Payment to letter-carriers and the incidental expenses of the free-delivery system	4,535,000 00
Wrapping-paper	35,000 00
Twine	95,000 00
Marking, rating, and canceling stamps, and ink and pads	25,000 00
Letter-balances, test-weights, and scales	20,000 00
Rent, light, and fuel for post-offices	500,000 00
Office furniture	40,000 00
Stationery in post-offices	65,000 00
Miscellaneous and incidental items	80,000 00

OFFICE OF THE SECOND ASSISTANT POSTMASTER-GENERAL.

Inland mail transportation—railroad routes	15,684,205 00
Inland mail transportation—steamboat routes	615,000 00
Inland mail transportation—star routes	5,900,000 00
Railway post-office-car service	1,875,000 00
Necessary and special mail facilities on trunk lines	266,764 50
Compensation to railway-postal clerks	4,682,300 00
Compensation to mail messengers	975,000 00
Mail locks and keys	20,000 00
Mail bags and mail-bag catchers	275,000 00
Miscellaneous items	1,000 00

OFFICE OF THE THIRD ASSISTANT POSTMASTER-GENERAL.

Postage stamps	174,000 00
Postage-stamp agency	8,100 00
Stamped envelopes and newspaper wrappers	749,000 00
Stamped-envelope agency	16,000 00
Postal cards	239,000 00
Postal-card agency	7,300 00
Registered-package envelopes, locks and seals, and post-office and dead-letter envelopes	140,000 00
Ship, steamboat, and way letters	2,000 00
Engraving, printing, and binding drafts and warrants	2,000 00
Miscellaneous items	1,000 00

OFFICE OF THE SUPERINTENDENT OF FOREIGN MAILS.

Transportation of foreign mails.....	\$425,000 00
Balances due foreign countries.....	75,000 00
Total	<u>56,099,169 50</u>

POSTAL REVENUE.

Estimated amount which will be provided by the Department from its own revenues, viz:

Ordinary postal revenue.....	\$50,872,820 24
Money-order receipts.....	400,000 00
	<u>51,272,820 24</u>

DEFICIENCY IN POSTAL REVENUE.

Leaving a deficiency in the revenue of the Post-Office Department to be provided for out of the general Treasury..... 4,826,349 26

FRANK HATTON,
Postmaster-General.

OFFICE OF THE POSTMASTER-GENERAL,
November 10, 1884.

REPORT OF THE FIRST ASSISTANT POSTMASTER-GENERAL.

POST-OFFICE DEPARTMENT,
OFFICE OF FIRST ASSISTANT POSTMASTER-GENERAL,
Washington, D. C., October 30, 1884.

SIR: The following statement of the labors of this Bureau for the past fiscal year shows, when compared with the report for the previous year, that, while in some matters of minor importance there was a decrease of work, yet the most essential features of its action were characterized by a steady growth and development. The number of new offices established during the year was greater than for several previous years, and the number discontinued considerably less than last year, making the net increase much larger than was anticipated. It will be observed that the principal increase in the amount of work performed was in the Salary and Allowance Division, made necessary in a great degree by the readjustment of the salaries of postmasters and late postmasters under the act of March 3, 1883. The Division of Free Delivery has accomplished all that could be expected considering the amount appropriated for this service; yet there still remain several offices which are entitled under the law to its benefits, but to which the service can not be extended until after the appropriation for the purpose shall have been increased. In the Divisions of Post-Office Supplies and of Correspondence the work has gradually increased, and postmasters and the public have been as promptly and fully served as the appropriations and circumstances would permit.

Below will be found a summary of the work of each division of the office for the year, though it furnishes no criterion of the amount of time, labor, and patience involved in the preparation and disposition of it.

Comparative statement of the number of post-offices established and discontinued, and of postmasters appointed for the fiscal years ended June 30, 1883, and June 30, 1884.

	June 30, 1883.	June 30, 1884.	Increase.	Decrease.
Number of offices established during the year.....	3, 253	3, 414	161	.....
Number discontinued.....	1, 621	1, 260	.....	361
Net increase over previous year.....	1, 632	2, 154	522	.....
Whole number of post-offices.....	47, 863	50, 017	2, 154	.....
Number filled by appointment of the President.....	2, 143	2, 323	180	.....
Number filled by appointment of the Postmaster-General.....	45, 720	47, 694	1, 974	.....
Appointments were made during the year:				
On resignations and commissions expired.....	7, 734	7, 265	.....	469
On removals and suspensions.....	705	513	.....	192
On change of names and sites.....	342	284	.....	58
On deaths of postmasters.....	468	477	9	.....
On establishment of new offices.....	3, 253	3, 414	161	.....
	12, 502	11, 953	.....	549
Total number of cases acted on during the year.....	14, 882	18, 841	.....	1, 041

From the above statement, it will be noticed that the increase over last year in the number of established offices was 161; while compared with the previous year the number of discontinued offices was 361 less.

The net increase in the whole number of post-offices for the fiscal year was 2,154; much larger than any increase for several years past. Arranged by sections and States and Territories this increase was as follows:

NEW ENGLAND STATES.

Maine.....	17	Connecticut.....	5
New Hampshire.....	10		
Vermont.....	5	Total.....	49
Massachusetts.....	10		
Rhode Island.....	2	Total for previous year.....	36

THE FIVE MIDDLE STATES AND DISTRICT OF COLUMBIA.

New York.....	40	District of Columbia.....	0
New Jersey.....	23		
Delaware.....	4	Total.....	225
Pennsylvania.....	124		
Maryland.....	34	Total for previous year.....	223

THE FOURTEEN SOUTHERN STATES AND INDIAN TERRITORY.

Virginia.....	79	Arkansas.....	77
West Virginia.....	79	Missouri.....	56
North Carolina.....	126	Tennessee.....	100
South Carolina.....	23	Kentucky.....	67
Georgia.....	67	Indian Territory.....	16
Florida.....	77		
Alabama.....	60	Total.....	1, 070
Mississippi.....	52		
Louisiana.....	47	Total for previous year.....	725
Texas.....	156		

THE TEN STATES AND SIX TERRITORIES OF THE WEST AND NORTHWEST.

Ohio.....	87	Dakota.....	128
Indiana.....	62	New Mexico.....	0
Michigan.....	79	Montana.....	7
Illinois.....	55	Wyoming.....	4
Wisconsin.....	39	Idaho.....	27
Iowa.....	53	Utah.....	14
Minnesota.....	43		
Kansas.....	37	Total.....	707
Nebraska.....	53		
Colorado.....	19	Total for previous year.....	580

THE THREE STATES AND THREE TERRITORIES OF THE PACIFIC SLOPE.

Oregon.....	39	Alaska	0
California.....	15		
Nevada	5	Total	104
Washington.....	35		
Arizona	10	Total for previous year.....	68

It will be perceived from the above figures that the greatest increase in any of the States and Territories during the year was 156, in Texas. Last year the largest increase was 172, in Dakota, which Territory during the past fiscal year had an increase of only 128. The increase in North Carolina for the year was 126 and in Pennsylvania 124. The only decrease was in New Mexico.

Comparing the number of post-offices in the different States, the order of the six highest on June 30, 1884, was as follows: Pennsylvania, 3,840; New York, 3,122; Ohio, 2,707; Illinois, 2,167; Virginia, 1,982; and Missouri, 1,968. Of the Territories, Dakota had the largest number, 837; exceeding the number in either Massachusetts, Maryland, or South Carolina.

The number of Presidential offices at the end of the fiscal year was 2,323; an increase of 180 during the year. The largest number in any State was 221, in New York. Next in order were Illinois with 189, and Pennsylvania with 166. The greatest increase in offices of this class was 21, in Dakota.

The number of money-order offices at the close of the fiscal year was 6,243; an increase over the previous year of 386. Of the whole number Illinois had 538; Iowa, 448; and New York, 436. The largest increase in any State was 30, in New York.

Fewer changes took place among postmasters during the last than in the preceding year. There was a decrease of 469, as compared with last year, in the number of appointments on resignations and commissions expired; of 192 on removals and suspensions; and 58 in changes of site and name of post-offices. The number of postmasters who died during the year was 477, or 9 more than in the preceding year.

The total number of cases involving appointments as postmasters acted on during the year was 13,841; a decrease of 1,041 as compared with the last year.

Additional information relative to the establishment, discontinuance, &c., of post-offices, and the appointment of postmasters, will be found in tables marked B and C, appended to this report.

APPOINTMENT DIVISION.

While the work of this division did not materially increase during the year, it was nevertheless of a more annoying character than usual, resulting mainly from the many contests over the location of new post-offices and the dissatisfaction which almost invariably arises when a change in the name or site of an existing office is proposed. For the first time this division of the office had a recognized chief, and, fortunately one thoroughly familiar with the business and capable of successfully supervising it. The consequence was much more system in its management, more zeal on the part of its employés, and greater satisfaction to the hundreds of persons who have business with it. I cannot too highly commend the intelligence and energy of this new officer. His duties are very laborious, and great care is required in the performance of them. His salary should, in my opinion, be increased to correspond with other chiefs of divisions in the Department, who receive

\$2,250 per annum each; and I hope that in making your next annual estimate for the clerical service of the Department you will regard it as proper to make such recommendation.

Briefly stated, the work of the division for the year was as follows:

Number of cases of all kinds made up.....	14,524
Number of cases acted upon affirmatively	13,924
Number of cases declined.....	617
Number of queries sent out affecting the establishment, discontinuance, &c., of post-offices	7,551
Number of circulars of inquiry, &c., mailed.....	29,943
Number of letters written	3,778
Number of cases referred to other Bureaus of the Department, or to correspondents for information.....	13,947
Number of Presidential cases acted upon.....	876
Number of offices placed in charge of sureties on account of death of postmasters or for other causes.....	314
Number of letters, petitions, and other papers received, indorsed, and filed..	110,265
Number of clerks in the division.....	13

BOND DIVISION.

The work of this division was very satisfactorily performed during the past year. Some changes were made in the manner of reporting its operations to other Bureaus, which have greatly facilitated the business of the Department without materially increasing the labors of the division. The reports of the inspectors, received during the year in regard to the responsibility of the sureties of postmasters, show that more interest and care are now exercised by appointees in making up their bonds than heretofore. The percentage of bonds forwarded to the Department improperly executed is also found to be decreasing, especially in the Southern States, indicating a greater degree of intelligence among postmasters than formerly. The following summary exhibits the labors of this division in about the only manner in which it can be succinctly presented:

Number of entries made on the books of the division	83,336
Number of cases received upon which appointment papers, bonds, &c., were mailed.....	13,924
Number of circulars sent on appointments, establishments, changes of names and sites, and discontinuances.....	32,291
Number of cases reported to report clerk.....	13,924
Number of new offices reported to division of post-office supplies.....	3,164
Number of appointees reported as failing to execute bonds.....	932
Number of circulars sent calling for execution of bonds.....	3,276
Number of bonds examined and passed for commissions.....	11,050
Number of bonds and oaths returned for correction.....	4,388
Number of bonds filed.....	13,895
Number of oaths of postmasters, assistant postmasters, and clerks received, indorsed, and filed.....	25,714
Number of circulars accompanying bonds returned for correction	3,788
Number of letters written	677
Number of new bonds sent by request of sureties.....	532
Number of circulars sent to sureties requesting to be released.....	623
Number of new bonds sent by request of postmasters.....	513
Number of new bonds sent by request of Third Assistant Postmaster-General.....	152
Number of new bonds sent on reports of post-office inspectors	93
Number of circulars sent to postmasters accompanying new bonds.....	2,489
Number of new bonds received and reported	1,757
Number of commissions mailed to postmasters.....	11,104
Number of surety circulars sent to chief post-office inspector	2,500
Number of post-office inspectors' reports on sufficiency of sureties received...	2,202
Number of notifications of postmasters' failure to pay amount due United States sent to sureties	244
Number of corrections of names reported to Appointment Division.....	381
Number of blank oaths for assistant postmasters and clerks mailed.....	59,895

Number of new bonds sent for establishment of new money-order offices.....	\$261
Number of circulars accompanying new money-order bonds.....	1,722
Number of commissioned postmasters reported to the Auditor.....	11,050
Number of circulars sent notifying sureties of death of postmaster.....	336
Number of blank oaths mailed for acting postmasters.....	336
Number of oaths of acting postmasters received and filed.....	241
Number of acting postmasters reported to the Auditor.....	241
Number of commissioned postmasters reported to the Third Assistant Postmaster-General.....	11,050
Number of commissioned postmasters reported for publication in the Postal Bulletin.....	11,050
Number of new bonds reported for publication in the Postal Bulletin.....	1,757
Number of new bonds reported to the Third Assistant Postmaster-General....	816
Number of establishments, discontinuances, and changes of names or sites of post-offices reported to the Second Assistant Postmaster-General.....	4,866
Number of same reported to the Third Assistant Postmaster-General.....	4,866
Number of same reported to the Equipment Division.....	4,866
Number of discontinuances reported to the Auditor.....	1,164
Number of new bonds reported to the Auditor.....	1,757
Number of discontinuances reported to the Third Assistant Postmaster-General.....	1,164
Number of clerks in the division.....	13

The total of the penalties of the official bonds executed by postmasters at Presidential and money-order offices during the last fiscal year amounted to \$17,053,000.

The following statement exhibits the number of post-offices in operation in the United States in each decade since 1790. The reason for the decrease between 1860 and 1870 was the discontinuance of several thousand offices in the Southern States during the war, and the delay attending, in many localities, their re-establishment.

Decade.	Number of post-offices.	Rate of increase.
		<i>Per cent.</i>
1790.....	75	.....
1800.....	903	1104.0
1810.....	2,300	154.6
1820.....	4,500	95.6
1830.....	8,450	77.7
1840.....	13,408	59.3
1850.....	18,417	36.7
1860.....	22,498	54.7
1870.....	28,402	Decrease.
1880.....	42,089	50.8
1884.....	50,017	18.6

DIVISION OF POST-OFFICE SUPPLIES.

The work of this division consists in supplying, principally upon requisition, the necessary stationery, blanks and twine, letter balances, scales, and post-marking and rating and canceling stamps to such post-offices as are, by law, entitled to the same, and also to the superintendents of the railway mail service, to enable all of these officers and their subordinates to make up and dispatch mails, to report and record the same, and to render formal accounts of the business of their offices to the proper authorities of this Department, and also to the Treasury.

This division is also charged with keeping the accounts for departmental printing with the Government Printer, and with the distribution of the departmental stationery.

The work of the division during the past year has been larger than that of any previous year, and has increased in about the same ratio

as the general growth of the service, as will appear from the following statement:

SUPPLIES FURNISHED.

Articles.	Fiscal year 1880-'81.	Fiscal year 1881-'82.	Fiscal year 1882-'83.	Fiscal year 1883-'84.
Blanks for use of the Department and for post-masters and the railway mail service	86,301,000	48,176,950	50,156,464	51,697,800
Books for the records of the Department, for post-masters, and the railway mail service.....	84,821	82,793	119,529	131,197
Facing slips for packages and sacks	41,942,400	82,786,600	48,960,000	48,583,700
Marking and rating stamps of all kinds.....	6,092	6,589	16,556	23,071
Jute twine	303,902	443,102	584,699	566,717
Hemp twine.....do.....	105,021	116,489	149,805	158,298
Cotton twine			71,018	126,296
Letter balances and scales	2,429	2,621	13,541	4,447
Wrapping paper.....reams.....	12,244	13,821	20,839	11,506
Canceling ink.....			11,376	(*)
Inking-pads			11,700	(*)
Wrapping paper, facing slips (15,360 to the ream), reams.....	2,080	2,070	3,120	3,163

* No appropriation.

The total appropriations and expenditures for the above-mentioned supplies during the fiscal year ended June 30, 1884, were as follows:

Appropriations	\$128,000 00
Expenditures	120,886 92
Balance unexpended	7,113 08

Detailed statements of these expenditures will be found in the table marked D, appended to this report. In addition to these expenditures wrapping paper for facing slips, amounting to \$7,783.20, was furnished to the railway mail service, upon requisition of the different superintendents, approved by the General Superintendent, and the cost thereof charged by the Auditor to the appropriation for railway transportation.

In like manner twine was furnished to the railway mail service, and the cost thereof, \$19,277.20, charged by the Auditor to the appropriation for railway transportation.

These items are included in the table of supplies furnished, but not in the statement of appropriations and expenditures.

Adding these amounts to the appropriations, for these two items the following results appear:

	Wrapping paper.	Wrapping twine.
Appropriations for 1883-'84	\$25,000 00	\$63,000 00
Expenditure for 1883-'84	32,783 20	82,277 30
Deficiency supplied out of appropriation for railway transportation.....	7,783 20	19,277 30

WRAPPING PAPER AND TWINE.

The appropriations for twine and wrapping paper have been based, heretofore, mainly upon the estimated demands for these articles at post-offices, without regard to the necessities of the railway mail service. The fact is, however, that the greater part of the distribution of the mail, and its making up into packages for its final destination, which was formerly done to a great extent in distributing post-offices, has, for the past eight years, been largely performed upon the cars by the railway postal clerks.

For several years the appropriation for these articles has been insuf-

ficient to supply both postmasters and the railway mail service, and the deficiency has been made good out of the appropriation for railway transportation, to which the supplies furnished the railway mail service may be regarded as an incidental expenditure. If this method of supplying the railway mail service with these articles should be continued the amounts appropriated for the present fiscal year for these items will be sufficient for the next; but if not, separate estimates should be made for the supply of postmasters and the railway mail service, or the customary estimate should be considerably increased. The twine issued to the railway mail service is used for the same purposes as in post-offices, but there is a difference between them in the use of wrapping paper. Only a small amount of wrapping paper in sheets is used in the Department for shipping supplies, while a considerable quantity is needed in post-offices for securing registered packages, and for the wrapping of bundles of mail matter for post-offices on star routes, in cases where the mail for a number of offices is inclosed in the same pouch. Nearly half of the entire quantity is cut up into facing slips, which are required to be used by all post-offices, as well as by railway postal clerks, one being inclosed in each package of letters and in each sack of paper mail made up.

My judgment in regard to this matter is, that this office should continue to furnish the railway mail service with supplies of this character; and, in order that any embarrassment or complication may be avoided in future in the payment therefor, I have to recommend that Congress be urged to increase the appropriations for the next fiscal year, both for wrapping paper and wrapping twine, as asked for and explained in the annual estimates for the service of this Bureau.

The wrapping paper furnished in 1882-'83 weighed 22 pounds to the ream of 20 by 25 inches, and 55 pounds to the ream of 26 by 40 inches, and in 1883-'84 the weights to the ream were respectively 30 and 60 pounds. The price paid per pound in 1882-'83 was about 5.95 cents, and in 1883-'84 6.45 cents. Experience has shown that in the matter of wrapping paper for the use of the Department the best is the cheapest, as under the last contract it required two or three sheets of the light weight paper to do the work of one sheet of the heavier paper. Similar results have been obtained by the use of a better quality of cotton twine, of which, during the last year, 126,296 pounds were issued against 71,018 pounds for the previous year.

The issue of jute twine was 566,717 pounds in 1883-'84 against 584,699 pounds in 1882-'83.

The issue of hemp twine in 1883-'84 was 158,298 pounds against 149,805 pounds in 1882-'83.

PRINTING, BINDING, ETC., FOR THE DEPARTMENT.

The appropriations and expenditures for this work during the past four fiscal years, exclusive of the printing and binding for the money-order office, which is paid for out of the profits of the money-order business, were as follows:

Fiscal year.	Appropriation.	Expenditure.
1880-'81	\$150,000	\$119,169 45
1881-'82	150,000	131,394 72
1882-'83	150,000	149,953 56
1883-'84	180,000	179,936 09
1884-'85	180,000	.....

The original appropriation for the fiscal year 1883-'84 was \$150,000, but by the act of Congress approved May 1, 1884, \$30,000 was authorized as a deficiency appropriation to be expended for this purpose.

It will be seen from the foregoing statement that the expenditures during the year 1882-'83 were about 10.73 per cent. greater than for 1881-'82, and for 1883-'84 about 11.10 per cent. greater than for 1882-'83.

It is supposed that a deficiency appropriation of at least \$20,000 will be necessary for this item during the present year.

It is estimated that about \$12,000 was expended out of this appropriation during the last fiscal year for stationery, blank books, and printed blanks for postmasters, the cost of which, prior to this year, was paid out of the amount appropriated for stationery in post-offices.

STATIONERY IN POST-OFFICES.

During the past fiscal year a new method of purchasing, also of supplying stationery to post-offices of the first and second classes, was introduced, viz, that of inviting proposals and contracting with the lowest or most satisfactory bidder to furnish the articles in bulk for use in such offices, and requiring postmasters in all cases to make requisitions for stationery before supplying it. This arrangement has been found more economical and systematic than the previous practice, which permitted these officers, after obtaining the consent of the Department, to make the needed purchases and file vouchers for the same with the Auditor.

The expenditures for stationery in post-offices for the past five fiscal years were as follows:

1879-'80.....	\$48,284 81
1880-'81.....	49,238 45
1881-'82.....	56,517 28
1882-'83.....	55,000 00
1883-'84.....	57,700 00

From the expenditures for this item for the last fiscal year must be deducted \$6,300, authorized by law to be paid out of the appropriation for the salaries of five clerks and two laborers employed in the division of post-office supplies, and also about \$8,000 for the estimated value of stationery on hand at the close of the fiscal year, which leaves \$45,000 as the cost of the stationery issued to post-offices of the first and second classes during the year.

To this amount must be added \$12,000 for printing and binding at the Government Printing Office, as above stated, making the total \$57,700. The net saving during the year by the new system may therefore be estimated at about \$2,300, which is nearly 4 per cent. of the appropriation.

The appropriation for the fiscal year 1884-'85 is \$65,000, and it is believed that a like amount will be sufficient for 1885-'86.

STATIONERY FOR THE DEPARTMENT.

The appropriation for stationery for the departmental purposes for the past few years has not been larger than \$9,000 per annum, notwithstanding the constant increase of business, which necessarily involved the use of more articles of this description to keep up the correspondence and records of the Department.

It has only been by the practice of the most rigid economy, and, in many instances, dispensing with material that might have greatly facilitated the work of the Department, that the sum appropriated has been

made to suffice. In consequence, however, of new rulings by the officials of the Treasury Department, many articles, such as law books, rubber stamps, &c., heretofore paid for from some other appropriation of the Department, will hereafter be charged to this stationery account. To meet this additional expense, and to properly provide for other actual necessities of the Department, the amount of this item should be increased for the next fiscal year to \$12,000.

POSTMARKING, RATING, AND CANCELING STAMPS, PADS AND INK, SCALES AND LETTER BALANCES, ETC.

Within the past four or five years the complaints of business men concerning the illegibility of postmarks, and improperly-rated letters and other mail matter, have been so numerous and so well founded that Congress was under the necessity of complying with the requests of the Department in regard to this matter, and by the act of Congress of May 4, 1882, \$35,000 was appropriated, with a view of partly remedying the evil, especially in its application to the management of post-offices of the fourth class.

This amount (\$35,000) was expended for the above purpose during the fiscal year 1882-'83, and with very perceptible benefit to the service and the people. The appropriation for scales and letter balances and for postmarking stamps since that time have been sufficient to enable the Department to supply all new offices with these articles and renew them at many of the offices when necessary; and if the wording of the law making appropriation for postmarking and rating stamps could be so changed as to include the purchase of ink and inking pads also, there would probably be but little cause for further complaint of illegibly postmarked mail matter or of insufficient cancellation of postage stamps.

Appended to this report will be found a tabular statement marked D, giving detailed information concerning the operations of the division of post-office supplies.

THE FREE-DELIVERY SYSTEM.

The number of free-delivery offices at the close of the year was 159, an increase of 5, viz: Chattanooga, Tenn.; Los Angeles, Cal.; Montgomery, Ala.; Ottumwa, Iowa, and Scranton, Pa.; and the number of carriers 3,890, an increase of 210.

The regular appropriation for this service was \$3,500,000, to which was added a special appropriation of \$14,653.40 to prevent an anticipated deficiency, making a total of \$3,514,653.40. The entire cost of the service was \$3,504,206.52, leaving an unexpended balance of \$10,446.88. The increase of appropriation over that of the preceding year was \$314,653.40, and the increase of expenditure \$330,870.01. This increased expenditure was due to the extension of the service to additional cities, to the number of carriers added to the force at the old offices, and to the increased pay of carriers required by act of August 2, 1882, which provides for the increase of the salary of each carrier, in cities having over 75,000 inhabitants, by \$200 each annually till the maximum (\$1,000) is reached, and in cities having a smaller population by \$250 each annually till the maximum (\$850) is reached.

POSTAGE ON LOCAL MATTER.

The total postage on local matter at the several offices amounted to \$4,777,484.87, an increase over that of the preceding year of \$417,745.65,

and over the entire cost of the service of \$1,273,278.35, an increase of 9.95 per cent. in postage on local matter and 36.33 over cost of the service. The average cost per piece in handling matter was 23 mills, a decrease of one-tenth mill as compared with last year. The average cost per carrier, based on the total cost of the service less the amount paid post-office inspectors, was \$898.78, an increase of \$38.83 over that of last year. This increase was owing to the fact that a large number of carriers reached the maximum salary.

The number of mail letters delivered during the year was 402,577,895, an increase of 17.70 per cent. over that of the preceding year; mail postal cards delivered was 97,421,725, an increase of 13.10 per cent.; local letters delivered, 121,853,932, an increase of 16.68 per cent.; local postal cards delivered, 69,230,704, an increase of 14.48 per cent.; registered letters delivered, 3,093,961, an increase of 9.32 per cent.; newspapers delivered, 231,645,185, an increase of 13.79 per cent.

The number of letters collected was 414,198,891, an increase over that of last year of 19.95 per cent.; postal cards collected 130,057,314, an increase of 12.98 per cent.; newspapers collected 70,475,010, an increase of 8.84 per cent.

The whole number of pieces handled—delivered and collected—was 1,540,554,117, an increase of 16.30 per cent., and the average number handled by each carrier was 396,029, an increase of 10.02 per cent.

Additional information concerning the operations of the free delivery service will be found in the tabular statement marked B, appended to this report.

Aggregate result of free-delivery service for fiscal year ended June 30, 1894.

Statistics of free delivery.	Total.	Increase over last year.	Per cent. of increase.
Number of officers	159	5	3.20
Number of carriers	2,890	210	7.26
Mail letters delivered	402,577,895	60,568,645	17.70
Mail postal cards delivered	97,421,725	11,288,497	13.10
Local letters delivered	121,853,932	17,416,786	16.68
Local postal cards delivered	69,230,704	8,758,511	14.48
Registered letters delivered	3,093,961	263,758	9.32
Newspapers delivered	231,645,185	28,077,180	13.79
Letters collected	414,198,891	68,881,088	19.95
Postal cards collected	130,057,314	14,943,783	12.98
Newspapers collected	70,475,010	5,723,168	8.84
Whole number of pieces handled	1,540,554,117	215,916,416	16.30
Pieces handled per carrier	396,029	36,974	10.02
Total cost of service including pay of post office inspectors ..	\$3,501,206 52	\$330,870 01	10.49
Average cost per piece in mills	2.2	10.1	4.10
Average cost per carrier*	\$898 78	\$38 83	4.51
Amount of postage on local matter	\$4,777,484 87	\$417,745 65	9.83
Excess of postage on local matter over total cost of service ..	\$1,273,278 35	\$251,384 84	24.60

* Based on the aggregate (\$3,498,267.29) paid carriers, including incidental expenses at the several offices, less \$7,939.23 paid post-office inspectors.

† Decrease.

Long experience has shown that this system of delivery is more acceptable to the people than the old mode of office delivery; that it is more accurate and thorough in the delivery of letters; that it reduces the number of dead letters; that it diverts to the post-office many letters formerly delivered by private expresses and private messengers; that it stimulates mail and local correspondence, and increases the postage on local matter; that it saves time and money to the people and fruitless calls at the post-office, and yields a larger surplus of postage on local matter alone above its cost, notwithstanding this class of matter for which it gets credit is only about 25 per cent. of the matter handled

by carriers. In view of these facts, I do not hesitate to advise that the law governing the establishment of this system be so changed as to authorize its extension to places of 10,000 inhabitants, provided the postal revenue for the preceding fiscal year at such places amounted to \$10,000; also that in case of several post-offices in the same city or place the revenues from all the offices may be aggregated and taken as a standard entitling such place to this system, provided it has the required population.

I would also call attention to a class of towns in the more densely settled portions of the country within short distances of one another, each with its separate post-office, which cannot be reached as the law now stands, having in the aggregate the required population and revenue, but none of which singly reaches the requirements of the law, viz: 20,000 population within its corporate limits or \$20,000 postal revenue. The law should, in my judgment, be so changed as to allow the aggregation of the population and postal revenues of these towns, and when they meet the requirements of population and revenue this system should be extended. This could be easily done by establishing the service at the most important and central office and discontinuing the others, or substituting branches of the central office, as may be found on investigation to be most expedient. The result would be a diminution in the number of offices, and a more intelligent, economical, and satisfactory service.

In this connection, and as showing the extent to which the delivery of mail by carrier has been carried in the United Kingdom of Great Britain, I quote from a letter of July 19, 1883, from the General Post-Office, London, as follows:

"There is certainly no village, and but few hamlets, in the United Kingdom without a delivery of letters, &c., from house to house, and that although in certain thinly inhabited districts the letters are not delivered every day, they are still delivered at least twice or more, usually three times, a week. Indeed, with but rare exceptions, letters are delivered even in rural districts on six days of the week, if not seven. * * * As a rule, all towns and most of the considerable villages have two deliveries of letters from house to house every week day. * * * Of 750 head post-offices about 350 have two deliveries in the course of the day, 300 have three deliveries, 115 have four, 17 have five, 6 have six, and 1 (Liverpool) has seven daily deliveries. * * * In the London postal district, which comprises an area of about 216 square miles, the number of deliveries on week days ranges from twelve in the central or 'town' district to three in a few of the outer suburban districts, where the population is comparatively sparse."

The following table, compiled from the same correspondence, will show the extent to which the free delivery of letters, &c., by carriers has superseded the delivery through post-office boxes in several of the principal cities of the United Kingdom:

City.	Number of post-offices boxes closed	Number of letters, &c., delivered through boxes, weekly	Total number of let- ters delivered weekly	Percentage of letters delivered to box- holders	Estimated population within city delivery
Birmingham	162	65,500	492,500	13.3	408,000
Dublin	77	53,000	442,500	11.9	316,500
Edinburgh	56	27,500	569,000	4.8	286,000
Glasgow	178	70,000	758,000	10.5	704,500
Liverpool	200	50,000	852,000	6.9	661,500
Manchester	544	180,000	875,500	21.2	597,500
Sheffield	176	38,500	205,500	18.7	284,000
London, E. C. district	100	193,000	2,710,300	7.1	.....

DIVISION OF CORRESPONDENCE.

The following is a summary of the work performed in this division:

Number of letters written to postmasters and to private individuals, involving decisions under postal regulations and laws, during the past fiscal year	11,155
Number of telegrams sent in reply to communications requiring the immediate action of the Department	98
Number of newspapers and periodical publications claiming the right of admission as second-class matter that have been examined and admitted or rejected.....	3,410
Amount of money collected from publishers of second-class matter for violation of law in inclosing third-class matter in their publications	\$3,689 07

This collection was made through the office of the Third Assistant Postmaster-General, as the result of decisions made in this office, and shows an increase of about 83½ per cent. over the collections from the same source for the last fiscal year.

The increase in the correspondence of the office for the same period was 3½ per cent.

The preceding statement is a compilation of results, and from the casual perusal of it no accurate idea of the actual mental and clerical labor required to attain the same can be formed.

The questions that properly belong (and are referred or addressed) to this division embrace many of importance to business men, one of its principal functions being the classification of mail matter and the fixing of the rates of postage chargeable thereon.

Questions concerning the right to the possession of letters containing money or drafts, and addressed to lunatics, deceased persons, or defunct corporations; the classification of printed matter, which always requires careful consideration and close discrimination; the collection of fines imposed upon firms or individuals for inclosing matter chargeable with a higher rate of postage in that of a lower; and the consideration of numerous other questions, of importance, which require the accurate construction of the United States statutes and the regulations of the Department governing the same, may be said to constitute the chief labors this division is called upon to perform.

LETTER-BOOK CLERKS.

There were recorded during the past fiscal year, by the two clerks assigned to this duty, 30,188 manuscript letters, orders, and reference papers.

It is estimated that at least 75,000 circulars and printed letters of inquiry or instruction were during the same period directed and mailed by these employés.

PRINCIPAL MESSENGER.

The employé who acts in this capacity received, opened, and distributed during the last year 627,256 letters, papers, requisitions, packages, &c., pertaining to the business of the bureau.

SALARY AND ALLOWANCE DIVISION.

The year just closed has been one of unusual activity in postal matters. Many changes and improvements were made, and as all adjustments and readjustments of postmaster's salaries, and allowances for clerk hire, rent, fuel, light, &c., were made through this division, the

small force employed deserve special recognition for the creditable record made by it.

In order to give an idea of the nature and variety of the duties assigned to this division, I will state them in concise form, viz :

DUTIES ASSIGNED TO THE SALARY AND ALLOWANCE DIVISION.

The most important duties assigned to this division are the adjustment of the salaries of Presidential postmasters, or postmasters of the first, second, and third classes; the consideration of applications for clerk hire, rent, fuel, light, furniture, miscellaneous and incidental expenses, and the examination of the quarterly returns or accounts of postmasters at offices of the first and second classes, before they are finally passed by the Auditor of the Treasury for the Post-Office Department; the regulation of the salaries and duties of the employés necessary for the proper transaction of the postal business in the larger post-offices; the supervision and regulation of box-rent rates and deposits for keys for lock-boxes; and the management of the large correspondence incidental to the transaction of the important duties as herein mentioned. The clerical work pertaining to the leasing of buildings or premises for post-offices was also performed in this division until March 31, 1884.

During the year the duties of this division were largely increased by the reduction of the rate of postage on first-class mail matter, and by the change in the law regulating the compensation of postmasters; the act of Congress approved March 3, 1883, requiring an adjustment of the salaries of Presidential postmasters to take effect October 1, 1883, simultaneously with the reduction of postage from three to two cents. This adjustment was made, and from October 1, 1883, the salaries of Presidential postmasters were equalized and fixed upon the basis of the gross receipts of their respective offices.

The new law requires these salaries to be adjusted annually instead of biennially, as heretofore; and the first annual adjustment was made upon the basis of the gross receipts accruing at the respective offices for the four quarters ended March 31, 1884, to take effect July 1, 1884. This important and extra duty, together with the wonderful increase in all of the branches of the postal service, more than doubled the work of this division.

The duty of regulating the key-deposit trust fund, assigned to this division just previous to the beginning of the past fiscal year, has also caused a large increase of work; but it is now so systematized that the heavy correspondence incident thereto is promptly attended to.

In addition to the regular duties of the division, as hereinbefore stated, on April 7, 1884, under order of the Postmaster-General, the work of reviewing and readjusting the salaries of postmasters at offices of the third, fourth, and fifth classes, under the act of Congress approved March 3, 1883, for the decade from July 1, 1864, to July 1, 1874, was assigned to it. At the same time a detail of seven clerks from other Bureaus of the Department was made, and six weeks later this force was increased to nine clerks.

This work, as you know, is one of considerable magnitude and importance, and it is increasing daily. The work of review is progressing as rapidly as possible with the limited force at command.

The number of letters received by this division for the fiscal year ended June 30, 1884, amounted to 17,837; an increase of 7,317, or 69.5 per cent., as compared with 1883, and 12,939, or 263.9 per cent., more than the number received during 1880.

The total number of letters written reached the large figure of 21,393; an increase of 11,393, or 113.8 per cent., over 1883. In other words, the number of letters written during the past fiscal year amounted to more than double the number during 1883.

There were mailed 21,228 circular letters; an increase of 6,745, or 46.5 per cent., as compared with 1883.

The allowances made for clerk-hire were 3,917; an increase of 1,159, or 42.0 per cent., over 1883. The aggregate amount allowed for clerk-hire was \$4,765,103.59.

The total number of applications for clerk-hire declined was 1,319; being a decrease, as compared with the year 1883, of 1,285, or 49.3 per cent.

There were made 2,518 allowances for rent, fuel, and light; an increase of 57, or 2.3 per cent., over 1883. This slight increase was occasioned by inadequate appropriations for rent, fuel, and light for post-offices, the limited fund compelling the Department to decline many meritorious applications.

Applications for allowances for rent, fuel, and light to the number of 967 were declined; an increase of 345, or 55.4 per cent., over 1883.

The allowances for miscellaneous items made numbered 4,551, and 1,613 applications for allowances for miscellaneous items were declined. As compared with the previous year, this is a decrease of 888, or 35.5 per cent., and this improvement is largely owing to the operation of Department order of September 7, 1883, requiring postmasters at the larger offices to make application for each quarter in advance for authority for making miscellaneous expenditures.

The allowances made for furniture were 647; an increase of 104, or 19.1 per cent., over 1883; and 779 applications for furniture were declined, a decrease of 136, or 14.8 per cent., as compared with 1883.

There were 207 applications for stationery declined. These applications all related to amounts disallowed for stationery for the fiscal year ended June 30, 1883, caused by the exhausted appropriation for that year.

There were made 218 allowances for advertising, the aggregate amount allowed being \$9,128.14; and 116 applications for advertising were declined.

There were 248 fourth-class post-offices reported by the Auditor, where the annual compensation for postmasters amounted to \$1,000, exclusive of money-order commissions; and 248 fourth-class offices were assigned to higher grades, the aggregate salaries of postmasters thereat making a total of \$269,900.

The special adjustments of postmasters' salaries made numbered 328, involving an aggregate amount of \$302,400 for salaries.

There were 101 salaries of postmasters reduced or discontinued, making a saving of \$107,200.

The total number of salaries of Presidential postmasters adjusted during the year amounted to 4,835; and the aggregate amount involved for salaries in all the adjustments amounted to \$7,842,200.

The allowances for clerk-hire reduced or discontinued during the year numbered 92, making a saving of \$48,117; and 217 allowances for rent, fuel, and light were reduced or discontinued, making a saving of \$48,353.

The work of reviewing and readjusting the salaries of postmasters at offices of the third, fourth, and fifth classes, under the act of March 3, 1883, was assigned verbally to this division by the Postmaster-General April 7, 1884, and since that date 26,892 applications for review

of salaries under the said act have been received and placed upon the files of the Department.

The number of applications reviewed and readjusted was 6,894, and 2,005 were allowed, involving an additional amount for the compensation or back pay of postmasters of \$158,447.73.

There were 4,889 applications reviewed and found to be below the ten per cent. increase requirement of law.

The following tabulated statement will show, in concise form, the operations of this division for the fiscal years 1880, 1881, 1882, 1883, and 1884, inclusive, viz:

Table showing volume of business transacted in the Salary and Allowance Division, office of the First Assistant Postmaster-General, for the fiscal years ended June 30, 1880, 1881, 1882, 1883, and 1884, and increase of work since 1880.

Items.	Fiscal year ended June 30—					Increase of work 1884 over 1880.
	1880.	1881.	1882.	1883.	1884.	
Letters received	4, 898	4, 255	8, 806	10, 520	17, 837	No. 12, 989
Letters written	5, 160	4, 751	7, 398	10, 002	21, 393	16, 233
Circular letters sent out			13, 503	14, 483	21, 228	21, 228
Allowances for clerk-hire made	1, 836	1, 694	2, 280	2, 758	3, 917	2, 581
Allowances for clerk-hire declined.....	1, 929	1, 603	1, 694	2, 604	1, 319	610
Allowances for rent, fuel, and light made	392	379	499	2, 461	2, 518	2, 126
Allowances for rent, fuel, and light declined	223	144	171	622	967	744
Allowances for miscellaneous items made.....	484	703	3, 177	4, 970	4, 551	4, 067
Allowances for miscellaneous items declined	96	634	855	2, 501	1, 613	1, 517
Allowances for furniture made	166	117	258	543	647	481
Allowances for furniture declined	506	337	244	915	779	183
Allowances for stationery made	615	635	2, 628	3, 239		
Allowances for stationery declined	19	19	918	1, 128	207	168
Allowances for advertising made			21	368	218	218
Allowances for advertising declined.....			39	120	116	116
Cases referred to chief post-office inspector.....	48	34	189	368	283	235
Special adjustments postmasters' salaries		251	238	349	328	328
Biennial adjustments postmasters' salaries	1, 764		2, 012		4, 875	3, 111
Fourth-class post-offices reported by the Auditor where the annual compensation of the postmaster amounts to \$1,000 exclusive of money-order fees ..	117	152	192	298	228	111
Presidential offices relegated to fourth class.....			9	15	97	97
Fourth-class offices assigned to the third class.....	99	113	145	174	248	149
Lease cases prepared			33	176	37	137
Leases in operation			313	228	298	298
Cases of all kinds made special		117	787	378	194	194
Discontinued rent			5	22	217	217
Discontinued clerk-hire			17	217	92	92
Presidential post-offices.....	1, 764	1, 863	2, 003	2, 176	2, 323	559
Claims for readjustment of postmasters' salaries under act of March 3, 1883				6, 567	26, 892	26, 892
Railway mail service allowances made.....		74				
Employés (average)	8	8	4	5	7	

* Decrease. † To March 31, 1884. ‡ Transferred to office Second Assistant Postmaster-General.

ADJUSTMENT OF PRESIDENTIAL POSTMASTERS' SALARIES.

In compliance with the requirements of the act of Congress approved March 3, 1883, the salaries of Presidential postmasters, or postmasters at offices of the first, second, and third classes, were adjusted and fixed upon the basis of the receipts of their respective offices, to take effect October 1, 1883, simultaneously with the reduction of postage on first-class mail matter. This adjustment was made upon the postmasters' returns for the four quarters ended June 30, 1883, being a full year upon the old or 3-cent rate of postage.

On July 1, 1883, the Presidential list of offices numbered 2,176, and under the operation of law 44 new offices were added, to take effect October 1, 1883, making a total of 2,220. Under the adjustment, as required by the act of March 3, 1883, 25 offices were relegated to the

fourth class, leaving a total of 2,195 offices on the Presidential list, from October 1, 1883. The aggregate salaries of these postmasters amounted to \$3,707,500; and the grand total of receipts from the same offices amounted to \$33,535,253.95, or 74.28 per cent. of the revenue of the Department for the same period. The aggregate salaries of the postmasters amounted to 11.6 per cent. of the receipts which accrued at their offices.

In accordance with the requirements of the new law, making provision for the *annual* instead of the *biennial* adjustments, as heretofore, the *first annual* adjustments of the salaries of Presidential postmasters were made, to take effect July 1, 1884. Two thousand three hundred and fifty-seven adjustments were made upon the basis of the returns from the respective offices for the four quarters ended March 31, 1884, being six months' revenue upon the *old* or 3-cent rate, and six months upon the *new* or *reduced* rate of 2 cents; 72 offices were relegated to the fourth class, and 38 new offices were added to the Presidential list from July 1, last, making the total number of Presidential offices, from July 1, 1884, 2,323. The aggregate amount required to pay the salaries of these postmasters is \$3,828,700; and the grand total of gross receipts which accrued at the same offices for the four quarters ended March 31, 1884, amounted to \$33,031,697.33. The aggregate salaries of the postmasters will absorb 11.59 per cent. of the revenue of the Presidential offices.

With a view of showing the number of Presidential post-offices, the aggregate salaries of postmasters, and the aggregate receipts for the four quarters ended March 31, 1884, by States and Territories, the following tabulated statement has been prepared:

Statement showing the number of Presidential post-offices in the several States and Territories, and the aggregate salaries of the postmasters thereof as adjusted to take effect July 1, 1884.

States and Territories.	Number of Presidential post-offices, adjustment of July 1, 1884.	Aggregate salaries of postmasters.	Aggregate receipts, four quarters ended March 31, 1884.
Alabama	23	\$34,300	\$165,815 34
Arizona	8	9,600	34,008 87
Arkansas	18	27,800	111,187 80
California	56	95,600	823,803 72
Colorado	33	54,100	328,928 33
Connecticut	55	95,900	662,633 07
Dakota	41	81,500	202,079 31
Delaware	7	11,200	67,460 44
District of Columbia	1	5,000	273,375 67
Florida	14	23,600	94,613 81
Georgia	29	48,400	341,531 45
Idaho	4	5,600	15,256 96
Illinois	189	297,000	3,071,819 80
Indiana	93	149,800	774,471 10
Iowa	132	210,100	923,509 43
Kansas	69	137,000	516,281 36
Kentucky	89	62,900	477,278 74
Louisiana	12	19,200	309,882 34
Maine	37	59,900	331,803 11
Maryland	10	32,900	607,536 74
Massachusetts	118	210,000	2,589,108 21
Michigan	115	187,600	1,086,486 36
Minnesota	61	81,200	617,360 26
Mississippi	23	34,500	110,501 78
Missouri	76	123,100	1,448,219 76
Montana	12	19,900	79,615 72

Statement showing the number of Presidential post-offices, &c.—Continued.

States and Territories.	Number of presidential post-offices, adjustment of July 1, 1884.	Aggregate salaries of postmasters.	Aggregate receipts, four quarters ended March 31, 1884.
Nebraska ..	49	\$73,200	\$277,994 41
Nevada ..	9	13,300	39,508 66
New Hampshire ..	32	50,100	206,678 42
New Jersey ..	62	113,100	737,195 68
New Mexico ..	7	13,500	47,969 52
New York ..	221	382,500	7,149,991 98
North Carolina ..	24	37,000	140,411 72
Ohio ..	126	241,800	2,162,041 50
Oregon ..	13	21,100	127,440 59
Pennsylvania ..	106	281,000	3,104,844 06
Rhode Island ..	11	22,500	280,327 19
South Carolina ..	19	28,500	146,032 71
Tennessee ..	27	43,500	336,773 07
Texas ..	77	121,400	574,671 83
Utah ..	5	9,100	61,734 19
Vermont ..	26	42,400	180,102 30
Virginia ..	31	54,900	358,687 34
Washington ..	11	17,700	62,416 40
West Virginia ..	16	24,800	107,587 80
Wisconsin ..	84	132,800	734,875 42
Wyoming ..	4	7,100	28,453 43
Total ..	2,323	2,823,700	33,031,097 33

Grand total of gross receipts ..	\$33,031,097 33
Grand total of postmasters' salaries ..	2,823,700 00
Percentage of gross receipts absorbed by salaries ..	11.59

The grand total of gross receipts for the four quarters ended March 31, 1884, was 74.80 per cent. of the revenue of the Post-Office Department for the same period.

A comparison of the adjustment of July 1, 1884, with the adjustment made to take effect October 1, 1883, can be made by examining the above table in connection with the tabulated statement, as shown on page 55 of the report of the Postmaster-General for the fiscal year ended June 30, 1883.

LEASES.

From July 1, 1883, to March 31, 1884, the time the work attendant upon the leasing of buildings and premises for postal purposes was performed in this division, only 37 lease cases were prepared, a remarkable falling off as compared with the previous year, when the number was 156. This was chiefly owing to the great embarrassment in which the Department was placed on account of the lack of well-defined authority to make contracts beyond the fiscal year. The total number of leases in operation June 30, 1884, was 298, involving an aggregate amount of \$282,683 for rent. A report of the leasing operations for the fiscal year ended June 30, 1884, will be made by the law clerk of the Department, who was placed in charge of leases by the Postmaster-General April 1, 1884.

BOX-RENTS.

The regulation of box rent rates was extended during the past year to all offices where postmasters collect box-rents.

From the statements furnished by postmasters at the request of this office relative to the number, condition, and rental price of their boxes,

it is shown that a prompt and careful supervision of this matter is necessary in order to insure practical uniformity of prices.

Thousands of postmasters at small offices, especially in the East, or thickly populated States, have for years, in violation of the strict letter of the law, provided some of their principal patrons with boxes free of rent. Again, a large number of postmasters, usually located in the Territories and sparsely settled States, have been charging exorbitant rental prices. This wide diversity in prices is being adjusted, so far as practicable, on a basis of uniform rates, regard being had for local circumstances, such as the cost of living and the general prices prevailing in different localities. Experience has proved, beyond the possibility of a doubt, that moderate rental prices produce the most satisfactory results.

The exercise of greater care in the supervision of this matter has already resulted in a great improvement of the service in this respect, and further improvements will be made during the present year.

KEY DEPOSITS.

The regulations relating to key deposits have been modified in some respects, the most important being that of allowing the postmasters at the smaller offices to exercise limited discretion in collecting deposits for keys. In the smaller towns, where postmasters are acquainted with most of the lock-box patrons, it is difficult to carry out the regulations of the Department without, in many instances, engendering bad feeling, and in some cases a serious falling off in box-rents. Many postmasters have made formal complaint to the Department of the stringency of the regulations, very generally asserting that the most unpleasant duty imposed upon them was the collection of the deposits for keys; and a number of postmasters, in order to comply with the *letter* of the law, took from their own funds the amounts required to represent the necessary deposits for keys rather than enforce its actual collection upon their neighbors, thus evading the true purpose of the regulation; and as the boxes and fixtures, as well as the keys and lock-boxes, in the smaller offices are very generally owned by the postmasters themselves, the protection afforded by the deposit for keys is in such cases a protection to the postmasters themselves, as the loss from keys not returned would, if there were no deposit, fall upon them, and not upon the Department. Therefore, inasmuch as the benefit of the key deposits in such cases inures solely to the postmasters, and as many postmasters prefer to bear the risk of loss on account of keys withheld rather than suffer a loss of box-rent, it was deemed advisable to permit them to exercise this reasonable discretion. The regulation, however, requiring postmasters to account to this office for all key deposits coming into their possession is strictly enforced. Their returns are now made semi-annually, instead of quarterly, as heretofore.

With these changes, the operation of the present regulations relative to key deposits is quite satisfactory.

REVIEW OF THE SALARIES OF POSTMASTERS OF THE THIRD, FOURTH, AND FIFTH CLASSES, UNDER THE ACT OF MARCH 3, 1883.

Under the act of Congress, approved March 3, 1883, as construed by the Attorney-General of the United States, under date of February 13, 1884, and reaffirmed June 14, 1884, the work of reviewing the salaries of postmasters and ex-postmasters of the third, fourth, and fifth classes was assigned, by verbal order of the Postmaster-General, to the division

of salary and allowances on the 7th of April, 1884; and at the same time a detail was made of seven clerks from other bureaus of the Department to carry on the work, and six weeks later this force was increased to nine clerks.

After the work had been assigned to this division, the large number of applications for review of salaries, which from time to time had been received at the Department, was collected, briefed, and classified by States and Territories; and, with a view of hastening the work, it was thoroughly systematized, so as to economize clerical labor and insure rapid adjustment of the claims. At the same time, and after a careful consideration of the subject, it was recommended that Congress be asked to provide a special force to carry on the work; also, that a limitation to the presentation of claims be fixed by Congress. This was not done, and therefore these recommendations are renewed in another part of this report. The period covered by the act of March 3, 1883, is from July 1, 1864, to June 30, 1874, although, under the biennial system of adjustments, actual benefits which may accrue to postmasters under the act date from July 1, 1866.

I have had prepared from the records of the Department the following tabulated statement of the aggregate compensation paid to postmasters; the number of offices in operation; the number of Presidential offices, and offices of the first and second classes; and offices of the third, fourth, and fifth classes coming under the said act, for each of the fiscal years from 1864 to 1874, inclusive, viz:

Statement showing aggregate compensation of postmasters, total number of post-offices, number of Presidential post-offices, post-offices of the first and second classes, and post-offices of the third, fourth, and fifth classes, coming within the scope of the act of March 3, 1883, for each fiscal year from June 30, 1864, to June 30, 1874.

For fiscal year ended June 30—	Aggregate com- pensation of postmasters.	Number of post- offices in opera- tion.	Number of Presi- dential post-of- fices.	Number of post- offices of first and second classes.	Number of post- offices of third, fourth, and fifth classes.
1864	\$3,174,325 68	24,878	705	261	28,617
1865	3,383,381 77	26,882	712	249	28,623
1866	3,454,677 44	23,828	709	274	23,554
1867	4,033,728 17	26,183	837	274	24,869
1868	4,255,310 98	20,481	849	400	26,081
1869	4,546,958 43	27,100	960	400	26,700
1870	4,073,486 79	28,492	1,093	522	27,970
1871	5,028,381 85	30,045	1,172	522	28,523
1872	5,121,685 20	31,803	1,200	560	31,303
1873	5,725,488 12	33,244	1,363	500	32,684
1874	5,818,472 17	34,294	1,408	.....	.....
Total	49,215,836 00	318,270	11,028	4,022	279,954

An examination of this table will show that the number of first and second class post-offices, for the period named, form but a very small portion of the total number of post-offices in operation.

As soon as possible after the assignment of the work various circular letters of instruction were prepared and distributed to claimants throughout the country. The work of review was pushed as rapidly as possible, and by the close of the fiscal year June 30, 1884, the first schedule of claims from the States and Territories of Alabama, Indiana, Iowa, Connecticut, Arizona, Dakota, Florida, and Colorado had been completed, and the amounts, as found due, certified to the Auditor of the Treasury for the Post-Office Department. The aggregate amount

involved in the schedules named was \$45,213.80, and an appropriation for the payment of these claims was made by Congress in "an act making appropriations to supply deficiencies in the appropriations for the fiscal year ending June 30, 1884," approved July 7, 1884.

Since that date the first schedules of claims from the States and Territories of Kansas, Arkansas, Georgia, California, Delaware, Illinois, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, and Mississippi have been completed, and the amounts found due certified to the Auditor of the Treasury for the Post-Office Department. The aggregate additional amount found due to the present time is \$158,447.73, making a total sum, excluding the amount already appropriated by Congress, of \$113,233.93 unprovided for at this time.

The present results of the work are shown in the following tabulated statement, viz:

Statement showing the present condition of the adjustment of postmasters' salaries under the act of March 3, 1883.

Date of schedule.	State.	No. of schedule.	Total number of cases received.	Number allowed to date.	Aggregate amount heretofore allowed postmasters.	Aggregate amount allowed under act March 3, 1883.
1884.						
May 14	Alabama.....	1	88	38	\$10,880 00	\$3,586 42
June 9	Indiana.....	1	565	222	64,035 79	17,246 26
11	Iowa.....	1	713	175	58,905 42	15,117 81
16	Connecticut.....	1	261	69	31,528 79	6,187 54
24	Arizona.....	1	3	1	495 00	103 54
24	Dakota.....	1	22	1	402 50	51 85
24	Florida.....	1	57	10	8,709 04	2,702 86
25	Colorado.....	1	56	6	660 83	217 52
July 2	Kansas.....	1	178	60	13,251 53	3,509 34
2	Arkansas.....	1	26	13	3,865 11	1,592 94
5	Georgia.....	1	76	24	7,853 52	2,280 40
Aug. 30	California.....	1	156	81	13,949 29	3,964 39
30	Delaware.....	1	32	6	730 06	622 64
30	Illinois.....	1	1,722	546	164,677 33	39,834 34
30	Kentucky.....	1	215	70	19,482 30	5,864 11
30	Louisiana.....	1	75	15	7,001 56	1,947 86
30	Maine.....	1	497	146	30,190 73	7,893 10
30	Maryland.....	1	212	61	21,135 95	12,539 23
Sept. 8	Massachusetts.....	1	466	111	62,521 77	13,474 80
25	Michigan.....	1	753	224	46,180 42	11,106 27
Oct. 1	Minnesota.....	1	499	139	20,515 13	5,602 78
3	Mississippi.....	1	100	26	10,778 96	2,998 73
	Total.....	22	6,772	2,005	597,751 3	158,447 73

LEGISLATION RECOMMENDED.

LEASES.

Although the work relating to the leasing of buildings and premises for postal purposes was transferred to the law clerk of the Post-Office Department from April 1, 1884, the leasing operations were under the supervision of this office during the past fiscal year for the three quarters ended March 31, 1884, and I therefore deem it my duty to reaffirm the opinion expressed in the report for the fiscal year ended June 30, 1883, that it is the duty of the Government to furnish roomy and well-arranged post-offices for the transaction of postal business.

The Department has been greatly embarrassed for the want of a well-defined law upon this subject.

The recommendation of this office last year that the Department should have ample discretionary power in the matter of leasing buildings for post-offices was cordially approved by the Postmaster-General

and favorably considered by both the Senate and House committees; and the bill authorizing the Postmaster-General to make leases for not exceeding ten years was passed by the Senate under date of March 5, 1884, but failed in the House on account of the crowded condition of legislation towards the close of the session. I would therefore suggest that the recommendation made last year, that the Postmaster-General be authorized to lease buildings and premises for postal purposes, be renewed at the coming session of Congress.

BUILDINGS FOR POST-OFFICES.

I suggest that the attention of Congress be invited to the subject of erecting buildings for post-offices in all cities of twenty thousand inhabitants and upwards where Government buildings are not now built. Such a policy would greatly improve the service, especially in the communities directly benefited, and would be a measure in the interest of practical economy.

Should this matter receive the attention of Congress, this office will cheerfully furnish any information relative to the matter which may be required.

OFFICE RENT, FUEL AND LIGHT, STATIONERY, MISCELLANEOUS AND INCIDENTAL ITEMS AT THIRD-CLASS OFFICES.

The recommendation made last year, that the Government should pay the office rent at offices of the third class, received the earnest support of the Postmaster-General, and also the favorable consideration of the committees of the Senate and House; but the bill failed to become a law. I renew the recommendation; and from further consideration of the duties and responsibilities of postmasters at offices of the third class, and the rights of the public, I am of the opinion that provision should be made not only for paying the office rent, but also for the payment of the expenses for fuel and light, stationery, and miscellaneous items.

These postmasters are now compelled to pay the expenses of rent, fuel and light, stationery, and miscellaneous items, and, in many cases, a part of the clerk hire.

As was stated last year, it is a hardship to compel these postmasters to pay these expenses from their not over-generous salaries or from private funds. I therefore recommend that Congress be asked to make provisions for paying the rent, fuel and light, stationery, and miscellaneous expenses at offices of the third class. This office will furnish a list of these offices, with estimates of the amount required to pay expenses, as suggested, at any time.

MONEY-ORDER CLERK HIRE.

The act of Congress approved March 3, 1883, prohibiting clerks employed on money-order work in post-offices from engaging in any other postal duties is still causing considerable trouble and annoyance to this office. The recommendation submitted last year, that the allowance for clerk hire, as made by this office, should cover the entire cost of clerical labor required at any and all points, received the favorable consideration of the committees of the Senate and House; but the bill as reported failed to become a law. I therefore recommend that this matter be again brought to the attention of Congress.

LIMITATION OF APPLICATIONS FOR REVIEW OF SALARIES OF POSTMASTERS

In the special report of this office, dated April 3, 1884, relative to the work of reviewing the salaries of postmasters of the third, fourth,

and fifth classes, under the act of March 3, 1883, as construed by the honorable the Attorney-General of the United States, it was suggested that the attention of Congress be invited to the subject of fixing a limit to the presentation of claims of this character. This was not done; and I therefore renew the recommendation, and would suggest that some date in the near future—say January 1, 1886—be fixed as a limitation for the presentation of applications under the said act.

Under existing law claims for a review of salary can be filed at any time; and, unless some limitation is placed upon filing claims, it will be readily observed that there will be, practically, no end to the work of reviewing the said salaries, which matter has already occupied more or less of the attention of this office for some years.

I also desire to recommend, in connection with the above-mentioned work, that the estimate, which has been made in the usual way, for a temporary force of ten clerks for this service, to be employed in the Salary and Allowance Division for one year, shall, if approved and authorized by Congress, be made to take effect from the passage of the act in which the employment of these clerks shall be provided for.

OFFICE FURNITURE.

As stated in the report of last year, bids for safes, under date of August 18, 1882, and December 15, 1882, were accepted by the clerk in charge of the Salary and Allowance Division during that year for the following offices and at the prices named:

<i>August 18, 1882.</i>	
Watertown, New York	\$290
Elgin, Illinois.....	290
Durango, Colorado	480
Adrian, Michigan	280
Newburgh, New York.....	285
Monmouth, Illinois.....	290
Ithaca, New York	285
San Diego, California	395
El Paso, Texas.....	450
<i>December 15, 1882.</i>	
Streator, Illinois	299
Westfield, Massachusetts	299
Richmond, Indiana.....	290
Lewiston, Maine	303
Salem, Massachusetts	292
Kansas City, Missouri	321
Hornellsville, New York	289
Canton, Ohio.....	287
Altoona, Pennsylvania	291
Total	5,722

The vouchers covering the cost of these safes, submitted by the postmasters with their quarterly returns to the Auditor of the Treasury for the Post-Office Department, were disallowed on account of the exhausted appropriation applicable for the purpose.

This matter was brought to the attention of Congress at its last session, but provision for the payment of the safes was not made.

I therefore recommend that the attention of Congress be again invited to this matter, and repeat that these safes were furnished in good faith at very reasonable prices, and in most cases postmasters anticipated their payment by the Department by paying the bills as presented from their own funds.

The interests of this Bureau are so many and so various that their satisfactory administration is always more or less difficult and embar-

rassing. These interests are not only coextensive with the country, but they intimately concern, so far as the management of post-offices is concerned, every citizen of the land. So far as I have had authority to direct the administration of these affairs, it has always been my object to do so with justice and fidelity.

Very respectfully,

JAMES H. MARR,
Acting First Assistant Postmaster-General

Hon. FRANK HATTON,
Postmaster-General.

REPORT OF THE SECOND ASSISTANT POSTMASTER-GENERAL.

POST-OFFICE DEPARTMENT,
OFFICE OF THE SECOND ASSISTANT POSTMASTER-GENERAL,
Washington, D. C., November 15, 1884.

SIR: The cost of inland transportation on the 30th day of June, 1884, was:

For 11,729 star routes, aggregating 226,779 miles	\$5, 089, 941
For 117 steamboat routes, aggregating 15,591 miles.....	596, 573
For 1,573 railroad routes, aggregating 117,160 miles	15, 012, 603
	<hr/> 20, 699, 117

Comparison with the last annual statement shows, for the star service, an increase of 402 routes, a decrease of 86 miles, and an increase of \$350,463 in annual cost; for the steamboat service an increase of 2 routes, a decrease of 502 miles and of \$11,048 in annual cost; for the railroad service, an increase of 60 routes, of 6,952 miles, and of \$1,124,803 in annual cost. In this statement no allowance is made for fines and deductions; the amounts actually disbursed appear in the report of the Auditor. The number of contracts drawn in duplicate, during the year ended June 30, 1884, was 5,250.

At the close of the last fiscal year more star service was in operation than indicated by an average for the five years next preceding, and performed at a diminished cost. This will more fully appear by the table following:

	Average for 1879, 1880, 1881, 1882, and 1883.	For year end- ed June 30, 1884.	Increase.	Decrease.
	<i>Miles.</i>	<i>Miles.</i>	<i>Per cent.</i>	<i>Per cent.</i>
Transportation.....	75, 960, 055	81, 109, 052	6. 78	.....
Annual cost.....	\$6, 194, 802	\$5, 089, 941	.....	17. 84
	<i>Cents.</i>	<i>Cents.</i>		
Cost per mile.....	8. 18	6. 28	.....	23. 23

STAR SERVICE.

The report of my predecessor for the preceding fiscal year indicated that the reduction in the cost of the star service, from the rate of expenditure June 30, 1880—which reduction, amounting to \$2,582,021, was effected during his administration of this office—had ceased, and that in consequence of the continuous rapid development of the country

the expenditure for this service would be thenceforth gradually increased.

The rate of expenditure on account of the star service on June 30, 1883, was \$4,739,478. The rate on July 1, 1883, was \$4,992,170. The rate on June 30, 1884, was \$5,089,941, an increase over the preceding June of \$350,463, and over the following July of \$97,771. This increase was principally due to the 402 new routes scattered through the States and Territories, upon which contracts were awarded under advertisements, and was in part caused by an increase in the contract prices of old routes readvertised in the general advertisement of October 16, 1882, as well as to increases of trips and distance upon routes already in operation. Upon the basis of cost here given, and for the reason that I anticipate that the present contract prices for the service in the New England States, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia, and the District of Columbia, will be increased under the competition invited by the advertisements of September 15, 1884, for the new term beginning July 1, 1885, an estimate of \$5,900,000 is submitted for the fiscal year ending June 30, 1886.

No allowances for increase of expedition have been made during the past year, and at my suggestion section 620 of the regulations of 1879 has been rescinded. That regulation had for its origin and continuation a method of adjusting compensation for expedition that has been demonstrated as both unsafe and unreasonable and one which I believe is wholly unwarranted by the statute.

It gives me pleasure to report that in practice the new form of sub-contract which was adopted October 1, 1883, simultaneously with regulations which prescribed certain restrictions upon subletting mail contracts, has fully secured the results expected and given to subcontractors the additional security sought, and has at the same time removed a class of vexatious disputes between contractors and subcontractors, hitherto brought to this office for adjudication, though they were not properly within its province to determine.

Early in the last session of Congress I submitted to your predecessor and to the Committee on the Post-Office and Post-Roads of the House of Representatives, a draft of a bill to regulate the letting of mail contracts, which, with the addition by the committee of one section (the fourth), was reported for enactment April 1, 1884, as a substitute for the bill H. R. 6407, as originally drawn. (See H. R. Report No. 1052, Forty-eighth Congress, first session.) The bill, however, remains upon the calendar for consideration.

The fourth section of that bill is as follows :

SECTION 4. That the first part of section two of an act to regulate the advertising of mail lettings, and for other purposes, approved May seventeenth, eighteen hundred and seventy-eight, be so amended as to read as follows: "Hereafter no subletting or transfer of any mail contracts shall be permitted unless the annual compensation under the contract for the service shall exceed seven hundred dollars, and in no case without the consent in writing of the Postmaster-General."

This section, its advocates have insisted, would prevent speculation in mail contracts because, it was argued, no person would bid for service on a large number of routes with the knowledge that he could not sublet them. It was in vain that this office directed attention to the fact that over 98 per centum of the routes are let at less than \$700, and that this section would not prevent certain contractors from hiring carriers, who after performance of service might have no means to secure their earnings by evidences of agreements that this Department could recognize, and that its enactment would place the majority of the sub-

contractors or carriers in exactly the position they occupied prior to the passage of the act of May 17, 1878 (20 Stats., p. 62), commonly called the "subcontract law," which grew out of a condition of affairs in no wise conducive to the protection generally of subcontractors, which condition this section seems admirably calculated to restore. It has not been explained, nor has it been perceived, why the endeavor to restrict subletting should begin at \$700, rather than \$100 or \$100,000. Should not the widest latitude be given or the reverse?

* * * * *

I urge the enactment of this bill because I believe that it will exclude from competition at the general lettings all persons who now secure, solely for the purpose of subletting, over three-fourths of the routes annually advertised, and who, in their endeavor to acquire the largest possible margin of profit, sublet the service at rates too low to be remunerative to the subcontractors. A margin thus secured by a speculating bidder, under a proposal already too low to provide proper service, will force a subcontractor, in order to obtain anything more than the cost of carrying the mails, to provide an inferior equipment, and, as a consequence, detentions and failures continually occur. These irregularities entail incidental evils that prevent the timely settlement of accounts, the removal of which will also be highly beneficial to the postal service.

STEAMBOAT SERVICE.

The rate of expenditure June 30, 1884, for steamboat service was \$596,573. The appropriation for the current year is \$625,000, and this amount, it is believed, will not be expended. To provide for present contracts and for all new service that may become necessary during the fiscal year ending June 30, 1886, I recommend that the sum of \$615,000 be appropriated.

MAIL MESSENGERS.

On June 30, 1884, the mail-messenger service was carried on at the annual rate of \$863,313. This is an increase of \$59,975 compared with the cost on June 30, 1883. The appropriation for the last year, including a deficiency of \$15,000 provided by the act of July 7, 1884, was \$875,000. The appropriation for the current year is \$975,000, and keeping in view the additional cost that will be incurred during the present year I estimate that no more than \$975,000 will be required for the fiscal year ending June 30, 1886. The estimate for the current year was submitted at \$975,000 in the belief that the new railroad service would approximate 10,000 miles, whereas the increase last year was but 6,952 miles. Anticipating that the increase in the railroad service for the year ending June 30, 1886, will not be more than 7,000 miles, I have not increased the estimate for mail-messenger service.

FINES AND DEDUCTIONS.

The amount of fines and deductions from the compensation of contractors and others during the year ended June 30, 1884, was \$214,742.77, and the remissions for the same period amounted to \$28,343.53, leaving the net amount of fines and deductions \$186,399.24. (See table marked F.)

MAIL EQUIPMENTS.

Accompanied herewith are tabular statement (N) of all contracts for mail equipments in operation on the 30th June. 1884; tabular statement (O) of the number, description, and prices of mail bags, mail

catchers, &c., purchased, and of the expense incurred on account thereof during the year ended June 30, 1884; and tabular statement (P) of mail locks and keys purchased and repaired and the expense thereof during the same period.

The total amount expended during the year for mail bags and mail catchers, including their appurtenances and repairs, was \$217,258.06.

The tabular statement marked O exhibits the expenditure in detail. Reference to it will show that the number of mail-bags of every description purchased was 133,800; of these 24,800 were locked bags, being those of higher price, used for letters and other mail matter of the first class, and 109,000 canvas sacks, used for printed and otherailable matter not of the first class; that 501,839 mail-bags of various kinds were repaired, at a cost of \$46,129.59, and that the cost of mail-catchers, including repairs, was \$8,487.22.

Although the amount appropriated was not entirely expended, the mail service was during the year frequently embarrassed in consequence of an inadequate supply of mail-bags and the insufficiency of the appropriation to provide the quantities required. The reason of this is that while the exact amount expended from day to day for supplies of new mail-bags is ascertainable at any time, the purchases being made directly by the Department under specific contracts, the total amount of expense incurred by necessity through postmasters in having old mail-bags repaired is not ascertainable until about three months after the end of the fiscal year, that is to say, until the accounts of all the postmasters in the United States shall have been examined and settled for that year by the Auditor of the Treasury for the Post-Office Department. The repairs of mail-bags being a necessary and contingent expense, too fluctuating and uncertain in amount to be exactly foreknown, an estimated sum amply sufficient to avoid all possible danger of exceeding the appropriation must be reserved in advance for that object out of the appropriation for "mail-bags and mail-catchers." The expense for repairs may sometimes prove to be very much less than the sum anticipated and reserved for that purpose, and yet the unexpended balance left on that account would not when ascertained be available for the purchase of supplies, however much needed, or for any other purpose than to be covered into the Treasury. However inadequate the appropriation for needful supplies of mail-bags, it is assumable that all of it will not be expended, as it cannot be without extreme danger of exceeding the authority of law. Consequently, with respect to mail-bags, an unexpended balance of appropriation is not conclusive proof that the appropriation was sufficient.

As mentioned in the last annual report, it is deemed expedient to replenish the reserved stock of mail-bags which was formerly kept on hand as a wise provision for future emergencies, but which, in consequence of the immense growth of the mail service and the inadequacy of the appropriations, had been exhausted in supplying immediate wants. In case of fraud, attempted fraud, or serious default on the part of a contractor in furnishing such supplies, it would be the duty of the Postmaster-General to promptly annul the contract. In such case it should be in his power to discharge that duty without bringing serious embarrassments upon the mail service by reason of not having a reserved stock to fall back on during the unavoidably long interval until proper supplies could be procured under a new contract, made according to law, after due advertisement for competitive proposals. Such supplies are not in open market, ready made, and are not purchasable therein for immediate delivery.

If, having regard to the peculiar character of mail-bags, it is necessary to be always prepared with a supply in reserve for such an occasion as that which has been alluded to, it is also necessary to have the means, by larger appropriation, sufficient for that purpose.

The appropriation (\$250,000) for mail-bags and mail-catchers for the current year will probably be only sufficient to supply *immediate* wants of the service until the end of the fiscal year, and not enough to restore or materially contribute towards restoring the requisite reserved supply. It is therefore recommended that the appropriation for the next year be at least 10 per cent. more than the amount appropriated for the present fiscal year.

By reference to the tabular statement P it will be seen that the cost of mail locks and keys during the last year was \$18,346.

Although the continual extension of the through registered mail system is requiring increased quantities of peculiar high-priced mail-locks, the appropriation (\$25,000) will be sufficient for the present year, and a reduction of 20 per cent. on that amount of expense is anticipated for the next fiscal year.

It will be necessary to expend for mail equipments during the year ending June 30, 1886, as follows, viz: For mail-bags and mail-catchers, \$275,000; for mail locks and keys, \$20,000, being 10 per cent. more for mail-bags and mail-catchers and 20 per cent. less for mail locks and keys than the appropriation for the current year.

As authorized by the first section of the act of Congress approved March 3, 1883, making appropriations for the service of the Post-Office Department, 200 raw-hide packing-trunks, for the better protection in transit of certain registered mail matter, were purchased, at the price of \$45 each, amounting to \$9,000, the sum appropriated for that purpose.

RAILROAD RATES.

This question has been before the public from the beginning of the railroad service, and for much of the time the relation between the Department and the companies has been marked by antagonisms detrimental to all interests involved. The early legislation on the subject shows an entire misconception of the principles governing and inseparable from transportation by railroad. For thirty years this great problem was passed over in a blind and groping way, and it was not until 1873 that a defined and intelligent basis was prescribed for gauging the compensation. Eleven years have elapsed since the adoption of that basis. In this period over 50,000 miles of road have been added to the system; the amount of mail matter carried has increased in a still greater ratio; and the care, efficiency, and accuracy with which the mails are handled and distributed have reached a degree of excellence approximating perfection. It is not astonishing, therefore, that the methods of compensation adopted when the great work of distribution in transit was in the experimental stage are not adapted to the present requirements of the public service.

I gave much attention to the work of the committee appointed to devise an improved plan for gauging the pay for carrying the mails on railroad routes and have carefully studied their recommendations, and I am fully satisfied that this plan so defines, connects, and blends all the elements of which the railway mail service is composed as to secure the facilities essential to its proper conduct.

The rates of compensation recommended by the committee, in my judgment, are fair and reasonable. It is true that a scale of prices applicable to all roads will not afford the same amount of compensa-

tion in each case. But under such general scale there is likely to be the least injustice.

While weight, space, speed, frequency, and facilities for distribution are all indispensable elements of the postal service under existing laws, but two of these are definitely prescribed, viz, weight and space. Weight is the principal factor. It is paid for at rates purely arbitrary, bearing no reasonable relation to the facilities required by the Department nor to other items of transportation composing the business of railroads. For instance, the act of 1873, which is the basis of present compensation, gives the following results :

Pay per mile per annum.	Weight per day.	Tons per mile per annum.	Cost per ton per mile.
	<i>Pounds.</i>		<i>Cents.</i>
\$75	500	78	96
100	1,000	156	64
125	1,500	234	53
150	2,000	312	47
175	3,500	547	31
200	5,000	782	25+

and \$25 for each addition of 2,000 pounds per day after the first 5,000 pounds, or 8 cents per ton per mile.

Practically these rates apply alike to the highest grade of service and to mails carried in bulk on slow schedules, without facilities for distribution in transit, and without regard to frequency beyond six round trips per week.

There is an evident difference in the character of the service on railroad routes, and there should be a proper discrimination prescribed by law in the compensation corresponding to the difference in service.

The rates prescribed by present laws for railway post-office cars show still more forcibly the incongruities of the present system, the pay being as follows :

Length of car.	Pay per mile per annum.	Pay per linear foot per annum.
<i>Feet.</i>		
40.....	\$25	\$0 62½
45.....	30	66
50.....	40	80
55.....	50	90
60.....	50	83

These discriminations are attributable solely to the dimensions of cars, and on that basis they are entirely unreasonable.

I assume nothing in asserting that this brief analysis of present laws is conclusive as to their inadequacy. All who understand this subject readily concede that these conditions are wholly arbitrary, incomplete, and unsuited to the wants of the service. These facts being admitted, the question arises: Is it practicable to abandon this anomalous system for one more in harmony with the requirements of the situation? Again, it is admitted that the plan reported to your predecessor in December, 1883, does meet the wants of the service; that it defines and gives due weight to every element requisite to the usefulness and advancement of the postal service; it gauges the pay so that the incentive would always be to improvement in the transportation of mails.

The opposition to the plan is restricted entirely to the rates of pay proposed. One class of objectors claim that the rates are too low, while another occupy the reverse position and insist that the rates are too high. It is not surprising that this important proposition, concerning the expenditure of about \$15,000,000 per annum, a corrective measure, should meet with opposition.

A careful analysis of all objections that have come to my knowledge, however, have only served to confirm me in the opinion that the rates proposed by the committee are as fair and reasonable as can be suggested. And the more forcibly is this view of the subject impressed upon me by the significant fact that notwithstanding the rates proposed were before Congress from December, 1883, to July, 1884, no other rates were proposed to take the place of those suggested by the committee, and this it cannot be believed would have been the case if other rates could have been suggested and sustained.

The object sought is the improvement of the present concededly insufficient and imperfect laws. A much superior plan has been devised. The opposition to it so far has been only of an obstructive character, for nothing definite has been proposed in its place to supersede the present objectionable system. This, in effect, serves to perpetuate old errors, involving among other things the serious consequence for the current year of the expenditure of more than a half million dollars of public money unnecessarily. For these reasons I appeal to you to urge upon Congress the necessity which exists for the adoption of the following proposed bill, which embodies the recommendation of the committee, as well as amendments touching the transportation of the mails from railroad stations to post-offices, and compensation to railroads which have received grants of public lands, the latter amendment having been proposed by the Post-Office committee of the House of Representatives at the last session:

•

PROPOSED BILL FOR THE READJUSTMENT OF COMPENSATION FOR THE TRANSPORTATION OF THE MAILS ON RAILROAD ROUTES.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Postmaster-General is authorized and directed to readjust the compensation to be paid for the transportation of the mails on railroad routes upon the conditions and at the rates hereinafter mentioned, and which shall take effect July first, eighteen hundred and eighty-five.

First. That the mails shall be carried upon any train at the request of the Postmaster-General; and railroad companies shall provide necessary depot rooms, with heat and light for the same; shall receive the mails from and deliver the mails to the Post-Office Department at depots; shall put the mails into and out of the cars; shall transfer the mails between trains at depots, and shall transport the superintendent and assistant superintendents of the Railway Mail Service and post-office inspectors upon the exhibition of their credentials, and railway postal clerks over the lines upon which they may be assigned to duty.

Second. That the compensation for carrying closed mails in baggage-cars and for railway post-office service, the minimum car width in every case being hereby fixed at eight feet and six inches, inside measurement, or its equivalent in floor space, shall not exceed the following rates, namely: For closed mails, five mills per linear foot of space (inside measurement) per mile run; and for two hundred pounds of mail or less the equivalent of six linear inches shall be required; for five hundred pounds one foot, and for each additional five hundred pounds one foot. For railway post-office service, at a rate of speed of twenty or less miles per hour from terminus to terminus, five mills per linear foot of space (inside measurement) per mile run; and for each additional two miles per hour to and including thirty miles per hour, one-tenth of a mill, and for each additional mile per hour, one-tenth of a mill. And the adjustment of space by linear feet for railway post-office service shall be as follows: For a daily average of from twenty-five to five hundred pounds of mail, not to exceed thirteen feet; from five hundred to one thousand pounds, not to exceed fifteen feet; from one thousand to two thousand pounds, not to exceed twenty-five feet; from two thousand to four thousand pounds, not to exceed forty feet; from four thousand to five thousand

pounds, not to exceed forty-five feet; for six thousand pounds, fifty feet; eight thousand pounds, sixty feet; the weight to be ascertained by a weighing of not less than twenty-eight consecutive days; and in all railway post-offices the load shall not exceed double the greatest weight for the respective lengths as herein provided; and for any gross weight, if carried on two or more trains daily, the space may be subdivided upon the basis of amounts of space for lower weights as the nature of the service may require; and no additional space shall be required or paid for unless found to be necessary: *Provided*, That the pay for the transportation of mails upon any railroad route for six round trips per week shall not be less than thirty-five dollars per mile per annum; but the Postmaster-General may increase the compensation upon any railroad route not to exceed fifty per centum per annum for special mail trains performing service upon schedules fixed by him; and at any post-office contiguous to a railroad route, and where trains do not make regular stops, the Postmaster-General may require that the mails shall be exchanged directly with the railway post-office at the nearest available point upon the track; and the Postmaster-General may allow to postmasters at post-offices of the third and fourth classes, located not more than one-fourth of a mile from railroad stations, not to exceed twenty-four and twelve dollars per annum, respectively, in each case, for the exchange of mails as often as may be necessary between such post-offices and stations; and in any case where the allowance herein provided shall be insufficient to procure the proper exchange of mails, the Postmaster-General may invite proposals for mail-messenger service and make an award thereof under such regulations as he may prescribe: *Provided further*, That the Postmaster-General may employ mail-messenger service at separating post-offices. And no postmaster, assistant postmaster, or clerk employed in any post-office where the cost for the carriage of the mail is based upon an advertisement, or is adjusted by an allowance otherwise than as herein provided, shall have any interest in its transportation. And all acts and parts of acts inconsistent or in conflict with the provisions of this act are hereby repealed: *Provided further*, That nothing herein shall be construed to repeal or change existing law, in so far as it discriminates against land-grant or subsidy railroads, in fixing relative rates of compensation to such railroads for the transportation of the mails.

ESTIMATES AND APPROPRIATIONS FOR PREVIOUS YEARS.

Owing to the character of the system governing the compensation for carrying the mails on railroad routes, the provisions of section 3679, Revised Statutes, requiring the Departments not to incur obligations in excess of appropriations, are practically inoperative as regards this item. The principle of restricting obligations so as not to exceed the sums provided by appropriation is, in my opinion, the correct one by which to regulate the expenditure of public money. The fact that the expenditure for railroad transportation cannot be kept within prescribed limits ought not to be regarded as a justification for an abandonment of the principle, which should be maintained by making the appropriation sufficient, approximately, to meet the unavoidable obligations for this item.

A review of the estimates of the amounts required, prepared by this office, and the appropriations made for the service, show a wide difference between the sums actually required for the service and the general appropriations made to meet such requirements, as will more clearly appear from the following tabulated statement:

Fiscal year ending June 30—	General appropriation.	Deficiency appropriation.	Aggregate appropriation.	Estimate of Second Assistant Postmaster-General.
1880.....	\$9,150,000	.....	\$9,150,000	*\$10,250,000
1881.....	9,665,000	.....	.....	10,000,000
1882.....	9,488,282	.....	.....	.....
22 Stats., p. 268 .....	.....	\$1,120,000	10,608,282	10,288,482
1883.....	11,155,000	.....	.....	.....
Act July 7, 1884.....	.....	648,902	11,803,992	11,155,000
1884.....	11,700,000	.....	.....	.....
Act July 7, 1884.....	.....	500,000	12,200,000	12,000,000
1885.....	12,750,000	.....	12,750,000	12,685,216

* Includes railway post-office cars.

In addition to the foregoing it may be added that it was shown on page 128, report for 1883, that about \$12,625,000 would be required for the year ending June 30, 1884. All of the \$12,200,000 appropriated has been expended, and a large number of accounts are unpaid, amounting on the 13th of September, 1884, to \$207,821; to which must be added the cost on 4,357 miles of new service, ordered prior to June 30, 1884, on which rates were not fixed September 13, 1884. And, in view of these ascertained facts, that the \$12,750,000 provided for the current year is entirely inadequate is beyond question. This practice of appropriating less than the needs of the service require is delusive in that the actual cost, or rate of cost, as represented by appropriations, does not appear at the proper time and place upon the records. Then, moreover, it is neither business-like nor right that payment for regular service should be delayed from nine to fifteen months, as is the case under existing circumstances.

STATEMENT.

<i>First.</i> Cost of transportation on all routes on which rates were fixed	
June 30, 1884, by Post-Office Department books	\$13, 273, 603
Cost, June 30, 1883.....	12, 288, 799
	<hr/>
Increase for 1884 over 1883	984, 804
Rate of increase, 8.01 per cent.	
New routes unadjusted June 30, 1884, 9,026 miles, estimated at \$60 per mile— $\frac{1}{4}$ year	270, 780
	<hr/>
Total.....	1, 255, 584
	<hr/>
<i>Second.</i> Cost, June 30, 1884	13, 273, 603
Add for 9,026 miles, at \$60 per mile, from July 1, 1884.....	541, 560
	<hr/>
	13, 815, 163
Less amount earned by and withheld from Pacific roads indebted to the United States	\$826, 731
By assignment of Union Pacific	347, 474
	<hr/>
	1, 174, 205
	<hr/>
Total	12, 640, 958
	<hr/>
<i>Third.</i> Cost, June 30, 1884, Auditor's statement	\$12, 200, 000
Audited and unpaid September 13, 1884.....	207, 821
	<hr/>
Total.....	12, 407, 821
Cost, June 30, 1883.....	11, 579, 172
	<hr/>
Increase for 1884 over 1883.....	828, 649

To which must be added the cost of new service ordered prior to June 30, 1884, on which pay was not fixed September 13, 1884, 4,357 miles, and to this mileage is attributable the difference between the estimated and audited cost.

The increase in the length of routes for the year ending June 30, 1884, was 6,942 miles, showing as compared with last year a decrease of 2,322 miles. The indications are that the new service for 1886 will not exceed 7,000 miles, as the readjustment of values now in progress throughout the country is not favorable to railroad construction.

REQUIREMENTS FOR THE CURRENT YEAR.

The foregoing statements prove conclusively that the \$12,750,000 appropriated for this item for the current year must be supplemented by a deficiency appropriation sufficient to bring it approximately to the sum estimated to be necessary for this item by this office in the last annual report.

ESTIMATE FOR 1886.

The \$12,640,958, the cost for the year ending June 30, 1884, ascertained as above explained, will be used as the basis upon which to estimate. Anticipating about the same rate of construction for 1886 as for 1884, 7,000 miles, and that the readjustment of pay for the regular term, from July, 1885, will fall in the eastern section, embracing the great trunk lines, upon which a large increase in the weight of mails is certain, and for which a corresponding increase in compensation will be required, the rate of increase is placed at 7 per cent., as against 8 per cent. for last year. And believing that the practice of placing to the credit of companies indebted to the Government the amounts earned in carrying mails, without having such amounts appear as a charge against the appropriation for the transportation of the mails is erroneous and delusive, I include these items in the estimate of amount necessary for railroad transportation for the year ending June 30, 1886.

Amount required for service exclusive of Pacific roads.....	\$14,510,000
For Pacific roads	826,731
For Pacific roads under assignment of the Union Pacific.....	347,474
Total.....	15,684,205

RAILWAY POST-OFFICE CARS.

The appropriation for this item has also been involved in the Pacific Railroad account, but for reasons given with regard to railroad transportation, I treat the whole cost as an expenditure, and estimate accordingly.

The cost, by the Post-Office Department books, June 30, 1884, was	\$1,749,478
Cost June 30, 1883.....	1,599,001
Increase for 1884 over 1883, 9.4 + per cent.....	150,477

I estimate that there will be required for 1886—

Exclusive of Pacific roads.....	\$1,765,026
For Pacific roads.....	106,902
For Pacific roads as per assignment.....	3,072
Total.....	1,875,000

The rate of increase being a little under 8 per cent. (7.81½ per cent.).

SPECIAL FACILITIES.

The appropriation for special facilities is a necessity growing out of the laws fixing pay for carrying the mails. The interests of the people require that the service secured by this expenditure be continued, and I agree with the views set forth by the General Superintendent of Railway Mail Service in his report, in which he recommends that \$266,764.50 be appropriated for this service for the next fiscal year.

Very respectfully,

HENRY D. LYMAN,
Second Assistant Postmaster-General.

Hon. FRANK HATTON,
Postmaster-General.

REPORT OF THE THIRD ASSISTANT POSTMASTER-GENERAL.

POST-OFFICE DEPARTMENT,
OFFICE OF THIRD ASSISTANT POSTMASTER-GENERAL,
Washington, D. C., November 17, 1884.

SIR: I have the honor to submit the following report and accompanying tables, numbered from 1 to 18, inclusive, pertaining to the business of this office for the fiscal year ended June 30, 1884, namely:

No. 1. Explanation of estimates of appropriations for the office of the Third Assistant Postmaster-General for the fiscal year ending June 30, 1886.

No. 2. Statement exhibiting the receipts and expenditures, under appropriate heads, by quarters, for the fiscal year ended June 30, 1884, compared with the fiscal year ended June 30, 1883.

No. 3. Statement showing itemized appropriations for the service of the Post-Office Department for the fiscal year ended June 30, 1884, and the expenditures made out of the same.

No. 4. Statement showing receipts and disbursements at Treasury depositories during the fiscal year ended June 30, 1884.

No. 5. Statement showing the issue in detail of all the several kinds of adhesive postage-stamps, stamped envelopes, and postal cards for the fiscal year ended June 30, 1884.

No. 6. Statement showing separately the issues of official postage-stamps for the fiscal year ended June 30, 1884.

No. 7. Statement showing the issues of postage-stamps, stamped envelopes, newspaper wrappers, and postal cards, by denominations, for the fiscal year ended June 30, 1884.

No. 8. Statement showing the increase in the number and value of postage-stamps, stamped envelopes, and postal cards issued for the fiscal year ended June 30, 1884, over those of the preceding year.

No. 9. Statement showing amount of dead mail matter treated in the division of dead letters during the fiscal year ended June 30, 1884.

No. 10. Statement showing the disposition of mail matter opened in the division of dead letters during the fiscal year ended June 30, 1884.

No. 11. Statement showing number of pieces, classification, and disposition of unmailable matter received at the dead-letter office during the fiscal year ended June 30, 1884.

No. 12. Statement showing the number of foreign dead letters received and disposed of during the fiscal year ended June 30, 1884.

No. 13. Statement showing the number of letters originating in the United States and returned by foreign countries as undeliverable during the fiscal year ended June 30, 1884.

No. 14. Statement showing the number of pieces of dead mail matter returned to and received from foreign countries during the year ended June 30, 1884.

No. 15. Statement showing the number, classification, and disposition of dead registered letters during the fiscal year ended June 30, 1884.

No. 16. Statement showing the number of registered letters and parcels transmitted through the mails from each State and Territory in the United States during the fiscal year ended June 30, 1884.

No. 17. Statement showing the increase of registered letters and parcels upon which fees were collected at twenty-five of the leading cities during the fiscal year ended June 30, 1884, over the preceding year.

No. 18. Statement showing the operations of the registry system at the cities of New York, Philadelphia, Chicago, Saint Louis, and Washington during the fiscal year ended June 30, 1884.

APPROPRIATIONS, EXPENDITURES, AND ESTIMATES FOR THE SERVICE OF THIS OFFICE.

The expenditures for the service of this office for the last fiscal year amounted to \$1,088,213.08, an increase over those of the previous year of \$152,046.20, or 16.2 per cent. The appropriations for the year amounted to \$1,200,900, of which \$112,686.92, or 10.3 per cent., was left unexpended. The estimates for the fiscal year ending June 30, 1886, amount to \$1,338,400, an increase of \$140,000, or 11.7 per cent., over the appropriations for the current fiscal year.

The estimates in detail, with the explanations thereof, will be found in paper marked No. 1, attached to this report.

FINANCIAL STATEMENT.

The receipts and expenditures of the postal service during the fiscal year ended June 30, 1884, were as follows:

RECEIPTS.	
Letter-postage paid in money.....	\$110,875 02
Box-rents.....	1,904,052 57
Fines and penalties.....	21,130 12
Sales of postage-stamps, stamped envelopes, newspaper wrappers, and postal cards.....	40,748,853 66
Dead letters for which no claimants could be found.....	9,619 19
Net revenue from money-order business.....	519,492 08
Miscellaneous.....	27 104 44
Total.....	43,334,127 08
The disbursements on account of the service of the year were.....	46,404,950 65
Excess of expenditures.....	3,060,823 57

In addition to the expenditures given above, the sum of \$819,599.62 was paid on account of indebtedness incurred in previous years, making the total amount disbursed during the year \$47,224,550.27.

The outstanding liabilities for the year are estimated at \$877,471.01, which sum, added to the amount actually expended, and \$1,200 17 51 credited to the Pacific railroad companies, would make the total cost of the service for the fiscal year \$48,542,611.20, or \$5,204,484 12 in excess of the receipts.

The decrease in receipts from those of the previous fiscal year was \$2,170,565.53, or 4.7 per cent., and was caused mainly by the reduction of the letter rate of postage from 3 to 2 cents, under the act of March 3, 1883, which went into operation on the 1st of October, 1883.

The increase or decrease in the several items of postal revenue is shown by the following table:

Items.	Fiscal year 1883	Fiscal year 1884	Increase	
			Amount	Per cent
Letter postage paid in money.....	\$110,212 35	\$110,875 02	\$662 67	4 1
Box-rents.....	1,882,940	1,904,052 57	21,112 57	1 1
Fines and penalties.....	21,130 12	21,130 12	0	0
Sales of postage-stamps, stamped envelopes, newspaper wrappers, and postal cards.....	40,044,043 68	40,748,853 66	704,809 98	1 7
Dead letters for which no claimants could be found.....	12,279 83	9,619 19	-2,660 64	-21 6
Net revenue from money-order business.....	519,492 08	519,492 08	0	0
Miscellaneous.....	27 104 44	27 104 44	0	0
Total.....	43,334,127 08	43,334,127 08	0	0

Table No. 2, accompanying this report, shows the receipts and expenditures for the fiscal year, by quarters, compared with the corresponding quarters of the previous fiscal year.

The appropriations for service of the year aggregate the sum of \$46,746,037.62. In 35 items the unexpended balances amounted to \$675,022.72, and in 2 items the expenditures exceeded the appropriations in the sum of \$333,945.75. The statement in detail will be found in Table No. 3.

BAD DEBTS.

From the report of the Auditor it will be seen that the postal revenue was charged during the last fiscal year with the following:

1. Amount of bad debts	\$6, 142 94
2. Amount of debts compromised	1, 721 47
3. Amount of loss on suspended accounts	591 42
Total	8, 455 83

TRANSACTIONS AT DEPOSITORIES.

The receipts and disbursements at Treasury depositories during the last fiscal year may be briefly stated as follows:

Balance subject to draft June 30, 1883	\$8, 453, 835 39
Outstanding warrants June 30, 1883	107, 232 92
Deposits year ended June 30, 1884	19, 585, 774 64
Total	28, 176, 842 95
Warrants paid during the year	22, 044, 230 94
Balance at depositories June 30, 1884	6, 132, 612 01
Outstanding warrants June 30, 1884	75, 469 94
Balance subject to draft June 30, 1884	6, 057, 142 07

CONTRACTS ENTERED AND ACCOUNTS KEPT.

There were 4,894 contracts for mail service received during the year from the Second Assistant Postmaster-General, and 18,127 orders of the Postmaster-General (of which 9,000 were double) recognizing mail service not under contract, curtailing or extending service, or modifying previous orders. These contracts and orders were entered upon the books of the finance division for reference when acting upon certificates of the Auditor for the payment of mail contractors and other creditors of the Department. The number of such certificates received and acted upon was 70,408, an increase of 22,130 over the previous fiscal year.

In addition to the above, 6,834 certificates were received from the Auditor for the Post-Office Department, upon which 6,834 transfer drafts, covering the sum of \$818,894.82, were drawn against postmasters having a surplus of postal revenue in favor of other postmasters whose revenues were insufficient to meet the demands upon their offices for payment of railway postal clerks, mail messengers, letter-carriers, &c.

The following table will show the number of warrants and transfer drafts drawn in the finance division, and the number of certificates of deposit received, entered, and passed to the Auditor during the fiscal year:

	Fiscal year of 1883.	Fiscal year of 1884.	Increase.
Number of warrants	48, 278	70, 408	22, 130
Number of drafts	5, 323	6, 834	1, 511
Number of certificates of deposit	199, 564	170, 959	28, 605
Total	253, 165	248, 201	4, 964

* Decrease.

The number of warrants drawn was 70,408, aggregating \$22,012,467.96.

Accounts were kept with the Treasury, nine sub-treasuries, and twenty-five designated depositories, involving the sum of \$19,585,774.64.

DIVISION OF POSTAGE-STAMPS, STAMPED ENVELOPES, AND POSTAL CARDS.

The following is a summary of the operations of the stamp division during the fiscal year ended June 30, 1884: The number of ordinary postage-stamps issued for sale to the public was 1,459,768,460, valued at \$29,077,444; of newspaper and periodical stamps 2,439,898, valued at \$1,923,217.80; of stamped envelopes, plain, 147,225,800, valued at \$2,907,340.32; of stamped envelopes bearing a printed return request 129,515,500, valued at \$2,918,760.55; of newspaper wrappers 45,490,750, valued at \$545,688.25; of postage-due stamps 13,612,198, valued at \$353,611; of postal cards 362,876,750, valued at \$3,629,640; of official stamps issued to Executive Departments for official use 3,389,440, valued at \$140,040; and of official stamped envelopes and wrappers 1,811,600, valued at \$20,135.26, making a total number of 2,166,130,396, and a total value of \$41,515,877.18. The issues are more detailed in tables No. 5 to No. 8, appended hereto.

The increase in value of issues over those of the preceding year is as follows: Of newspaper and periodical stamps, \$170,653.30, or 9.73 per cent.; of stamped envelopes, plain, \$76,243.45, or 2.69 per cent.; of newspaper wrappers, \$15,499.50, or 2.92 per cent.; of official stamps, \$14,200.80, or 11.28 per cent.

There was a decrease in the value of issues of ordinary postage-stamps amounting to \$1,229,735; of stamped envelopes bearing a printed return request amounting to \$211,013.60; of postage-due stamps amounting to \$51,304.90; of postal cards amounting to \$166,450, and of official stamped envelopes and wrappers amounting to \$12,535.94.

The total decrease in the value of all issues was \$1,394,442.39, or 3.25 per cent.

In addition to the articles above enumerated, there were issued for official use 10,018,595 registered-package envelopes; 915,065 tag envelopes for registered parcels; 25,813,300 post-office envelopes; 1,495,000 envelopes for returning dead letters; 780,000 departmental envelopes for the several bureaus of this Department; and 2,327 newspaper and periodical receipt books.

The requisitions upon which the foregoing supplies were issued numbered as follows:

For ordinary postage-stamps	165, 922
For postage-due stamps	15, 107
For newspaper and periodical stamps	9, 594
For stamped envelopes, plain	83, 689
For stamped envelopes, printed	100, 836
For postal cards	76, 111
For official postage-stamps and stamped envelopes	23
For registered-package envelopes	57, 438
For tag envelopes for registered parcels	2, 109
For post-office envelopes	26, 008
For newspaper and periodical receipt books	1, 613
Total	538, 450.

These supplies were made up and forwarded in the following number of parcels:

Of ordinary postage-stamps.....	168,982
Of postage-due stamps	15,113
Of newspaper and periodical stamps	9,594
Of stamped envelopes, plain.....	120,076
Of stamped envelopes, printed.....	85,948
Of postal cards.....	84,604
Of official postage-stamps.....	32
Of official stamped envelopes	74
Of tag envelopes	2,019
Of registered-package envelopes.....	62,448
Of post-office envelopes.....	32,524
Of newspaper and periodical receipt books.....	2,327
Total.....	583,741

The following is a comparative statement of requisitions filled during the past and preceding fiscal years:

Articles.	Requisitions filled during fiscal year ended June 30, 1884.	Requisitions filled during fiscal year ended June 30, 1883.	Increase.
For ordinary postage-stamps	165,922	137,672	28,250
For postage-due stamps	15,107	14,360	747
For newspaper and periodical stamps	9,594	11,214	*1,620
For stamped envelopes, plain	83,689	63,753	19,936
For stamped envelopes, printed	100,836	78,617	22,219
For postal cards	76,111	80,692	*4,581
For official postage stamps and stamped envelopes	23	31	*8
For registered-package envelopes	57,438	55,370	2,068
For tag envelopes	2,109	1,395	714
For post-office envelopes	20,008	25,752	256
For newspaper and periodical receipt books.....	1,613	1,611	2
Total.....	538,450	470,467	67,983

* Decrease.

POSTAGE ON SECOND-CLASS MATTER.

The weight of newspaper and periodical (second-class) matter mailed during the year from regular offices of publication and from news agencies, not including free circulation within the county of publication, was 94,479,607 pounds, or 47,239 $\frac{1897}{2000}$ tons, the postage on which was \$1,889,592.14, an increase of \$184,414.61, or 10.82 per cent., over the amount of postage collected on such matter during the preceding year.

The number of post-offices at which this class of matter was mailed during the year was 5,785, an increase of 436, or 8.14 per cent., over that of the previous year.

During the year the sum of \$3,687.07 was collected at proper rates from publishers and news agents on matter mailed, but not entitled to go as second-class matter.

In the following statement will be found the number of pounds of newspapers and periodicals mailed during the year, and the amount of

postage collected thereon, at sixteen of the principal post-offices in the United States:

Post-office at—	Year ended June 30, 1883.		Year ended June 30, 1884.		Increase for 1884.			Percentage of total amount collected in the United States.
	Number of pounds mailed.	Amount of postage col- lected.	Number of pounds mailed.	Amount of postage col- lected.	In number of pounds.	In amount of postage.	Percentage of increase.	
New York, N. Y	22, 541, 783	\$450, 835 66	23, 529, 581	\$470, 591 62	987, 798	\$19, 755 36	4. 38+	24. 90+
Chicago, Ill	7, 131, 851	142, 697 02	8, 887, 105	177, 742 10	1, 752, 254	35, 045 08	24. 56+	9. 41+
Boston, Mass	5, 564, 766	111, 295 32	6, 066, 420	121, 328 40	501, 654	10, 033 08	9. 01+	6. 42+
Philadelphia, Pa	4, 431, 385	88, 627 70	4, 800, 986	90, 019 72	369, 601	7, 392 02	8. 34+	5. 08+
Saint Louis, Mo.	3, 895, 771	77, 915 42	4, 413, 045	88, 260 90	517, 274	10, 345 48	13. 28+	4. 67+
Cincinnati, Ohio	3, 143, 368	62, 867 36	3, 336, 610	66, 782 20	193, 242	3, 864 84	6. 14+	3. 53+
San Francisco, Cal	1, 536, 372	30, 727 44	1, 721, 512	34, 430 24	185, 140	8, 702 80	12. 05+	1. 82+
Milwaukee, Wis	1, 182, 119	23, 642 38	1, 462, 279	29, 245 58	280, 160	5, 603 20	23. 69+	1. 54+
Detroit, Mich	1, 223, 460	24, 469 20	1, 431, 770	28, 635 40	208, 310	4, 166 20	17. 08+	1. 51+
Louisville, Ky	1, 076, 839	21, 536 78	1, 251, 155	25, 023 10	174, 316	3, 488 32	16. 19+	1. 32+
Cleveland, Ohio	1, 103, 449	22, 068 98	1, 158, 948	23, 178 96	55, 499	1, 109 98	5. 03+	1. 22+
Elgin, Ill.	1, 245, 473	24, 909 50	1, 137, 042	22, 740 84	*108, 433	*2, 168 60	.....	1. 20+
Washington, D. C.	714, 562	14, 291 24	1, 082, 924	21, 658 48	368, 362	7, 367 24	51. 55+	1. 15+
Saint Paul, Minn.	915, 409	18, 808 18	1, 032, 811	20, 656 22	117, 402	2, 348 04	12. 83+	1. 09+
Augusta, Me.	1, 206, 254	24, 125 08	1, 002, 019	20, 040 38	*204, 235	*4, 084 70	.....	1. 06+
Toledo, Ohio	772, 764	15, 455 28	994, 702	19, 894 04	221, 938	4, 438 76	28. 72+	1. 05+
Pittsburgh, Pa.	892, 556	17, 851 12	901, 084	19, 833 68	99, 128	1, 982 56	11. 11+	1. 05+
Baltimore, Md	739, 945	14, 798 90	833, 137	16, 662 74	93, 142	1, 863 84	12. 59+	0. 88+
Total	59, 321, 128	1, 186, 422 56	65, 133, 730	1, 302, 674 60	5, 812, 602	116, 252 04	9. 80+	68. 94+

* Decrease.

DIVISION OF DEAD LETTERS.

The whole number of pieces of undelivered mail matter received in the dead-letter office (including 278,648 pieces on hand from the previous year) was 4,843,099. They were classified as follows:

Domestic mailed letters, including 3,480,672 ordinary unclaimed letters; 112,648 letters returned from hotels; 24,383 letters bearing fictitious addresses; 210,227 letters returned from foreign countries, and 4,098 registered letters	3, 832, 028
Domestic unmailable letters, comprising 133,586 held-for-postage letters; 1,797 letters containing unmailable articles; 314,719 misdirected letters, and 14,134 letters without address	464, 236
Domestic parcels of third and fourth class matter	69, 637
Letters mailed in foreign countries	456, 219
Printed matter, samples, &c., mailed in foreign countries and returnable..	20, 979
Total as before	4, 843, 099

The following was the disposition primarily of letters handled during the year:

Domestic mailed letters:	
Card and request letters delivered unopened	56, 216
Letters opened	3, 676, 412
Letters left on hand	99, 400
	3, 832, 028
Domestic unmailable letters:	
Held-for-postage letters forwarded to address unopened on receipt of postage	16, 712
Held-for-postage letters opened	116, 275
Held-for-postage letters on hand awaiting return of notices	599
Letters containing unmailable articles opened	1, 797
Misdirected letters forwarded unopened after correction of address	75, 700
Misdirected letters opened	239, 019
Letters without address opened	14, 134
	464, 236

Domestic third and fourth class matter:		
Parcels opened and returned.....		69, 637
Foreign matter:		
Letters returned to country of origin	448, 312	
Letters still on hand.....	7, 907	
Parcels of printed matter, samples, &c., returned unopened	20, 979	
		<u>477, 198</u>
Total		4, 843, 099

MATTER OPENED IN DEAD-LETTER OFFICE.

The following was the disposition of mail matter opened in the dead-letter office:

Delivered :		
Letters containing money	13, 062	
Letters containing drafts, notes, money-orders, and other evidences of monetary value	19, 014	
Letters containing receipts, paid notes, &c	31, 557	
Letters containing postage-stamps.....	80, 400	
Letters containing nothing of value	1, 298, 178	
Photographs	30, 904	
Parcels of merchandise, books, &c.....	45, 710	
		<u>1, 518, 825</u>
Returned and awaiting evidence of delivery:		
Letters containing money	1, 050	
Letters containing drafts, checks, &c.....	1, 158	
Parcels of merchandise, books, &c.....	56	
		<u>2, 264</u>
Under treatment looking to delivery:		
Letters containing money		1, 344
Filed upon failure to deliver :		
Letters containing money	4, 107	
Letters containing drafts, checks, &c.....	697	
Letters containing receipts, paid notes, &c	2, 842	
Letters containing postage-stamps.....	3, 688	
Photographs	7, 444	
Parcels of merchandise, books, &c.....	31, 912	
		<u>50, 690</u>
Destroyed :		
Letters containing nothing of value which could not be returned to writers, including 133,100 letters forwarded to writers and returned upon failure to deliver	2, 539, 477	
Parcels containing magazines, pamphlets, fruit, cake, seeds, &c.	17, 513	
		<u>2, 556, 990</u>

FOREIGN DEAD MAIL MATTER.

The following statement shows the disposition during the year of dead mail matter originating in foreign countries :

Returned to country of origin :		
Registered letters.....	12, 146	
Ordinary letters	424, 390	
Parcels of printed matter, &c.....	20, 094	
		<u>456, 630</u>
Delivered to addressees upon their application :		
Registered letters.....	418	
Ordinary letters	161	
Parcels of printed matter, &c	12	
		<u>591</u>
Misdirected matter forwarded to correct address:		
Registered letters.....	67	
Ordinary letters	11, 130	
Parcels of printed matter, &c.....	873	
		<u>12, 070</u>

On hand under treatment:

Registered letters.....	357	
Ordinary letters	7,550	7,907
		<hr/>
Total		477,198

MATTER RETURNED FROM FOREIGN COUNTRIES.

The following number of pieces of matter originating in the United States was returned to the dead-letter office from foreign countries during the year as undeliverable:

Registered letters.....	1,209	
Ordinary letters	175,365	
Parcels of printed matter, &c	33,862	210,436
		<hr/>

DEAD REGISTERED MATTER.

Of the 16,742 unclaimed registered letters and parcels received there were—

Delivered to addressees or restored to senders.....	15,853	
Returned to postmasters and awaiting receipts.....	71	
Filed upon failure to discover ownership and subject to future reclamation	818	16,742
		<hr/>

REVENUE FROM DEAD MATTER.

The amount received in postage-stamps on insufficiently prepaid letters forwarded to destination and upon articles of third and fourth class matter returned to senders was \$2,082.18.

There was deposited in the United States Treasury to the credit of the Post-Office Department \$7,239.47 in money separated from dead letters which could not be restored to the senders, and \$1,915.43 realized from auction sale in January last of articles of merchandise for which no owners could be found.

There was an increase of 402,277 pieces of matter of all classes received and treated, or 9 per cent. over the preceding year. The decrease shown in the held-for-postage letters is due to the reduction in the rate of postage and the present regulation which directs postmasters at mailing offices to notify the addressees of insufficiently prepaid matter of its detention, and to require the payment of the postage before its transmission. This regulation having met the approval of the public where applied, was extended in December last to all post-offices.

The misdirected and missent letters received show a marked increase over the last year; but not greater in proportion than was to be expected from the increase in the mail service of the whole country.

The number of undelivered foreign letters returned to the country of origin is still largely in excess of those returned to the United States by foreign countries. One reason for this excess may be found in the fact that of the 456,219 ordinary foreign letters received, 51,805 were sent to the dead-letter office as misdirected.

Statistics more in detail concerning the operations of the dead-letter office will be found in tables marked No. 9 to 15.

DIVISION OF REGISTRATION.

The total number of letters and parcels registered during the fiscal year ended June 30, 1884, was 11,246,545, of which 8,068,338 were domestic letters, 1,005,865 were domestic parcels of third and fourth-class matter, 466,902 were letters registered to foreign countries, 29,488 were parcels of third and fourth class matter registered to foreign countries, and 1,675,952 were letters and parcels registered for the Government, and by law exempted from the payment of registry fees.

The amount of registry fees collected during the year was \$957,059.30, being an increase over the previous year of \$30,509.60, or 3.3 per cent.

The increase in the number of letters and parcels registered was 651,829, or 6.2 per cent.

LOSSES.

During the year 8,365 registered letters and parcels were reported to the chief inspector as having been lost or rifled. Of this number 5,917 were found to have been properly delivered or accounted for, and 1,932 are still under investigation, leaving the actually ascertained losses at 516 cases, or one out of about 21,795 pieces mailed. Taking into account the large amount of matter registered, this is the smallest average of losses which has occurred since the organization of the registry system. This gratifying state of things may properly be attributed to the improvements made in the machinery of this branch of the service during recent years, by which additional safeguards were provided, the work lessened, and the security enhanced. Much credit is, however, due to the inspectors for the zeal manifested and the skill displayed by them in the management of cases reported for their investigation.

The average proportion of increase in the registration of letters upon which fees are paid is somewhat diminished as compared with that of former years. The real cause for this decrease has not been definitely ascertained, but sufficient data has been obtained to justify the belief that the introduction of the postal-note system, as well as the stringent orders of the Department against the registration of letters addressed to lottery companies, has in no small degree contributed to bring about this result. In support of this conclusion, I would refer to a letter on the subject recently received from the postmaster at Philadelphia, Pa., in which he states that the falling off in registration at his office during the year was no doubt due to the loss of the so-called lottery letters, there having been at times as many as six hundred for M. A. Dauphin, the agent of the Louisiana State Lottery Company, and others, registered in one day at his office.

A minute description of the changes made in the registry system during recent years, by which it was greatly simplified and improved, may be found in previous reports from this office. During the past year no new features have been added.

While the system as at present organized furnishes a safe and convenient method for transmitting valuable matter through the mails at cheap rates, yet its efficiency would be greatly increased if postmasters could be held to a more strict accountability for disobedience and disregard of instructions.

The ordinary means employed by the Department at the present time to enforce compliance with the requirements of the rules and regulations by which this branch of the postal service is governed are not, in my opinion, sufficiently effective. I would therefore recommend that the matter be brought to the attention of Congress with a view to the estab-

ishment of a system of fines and penalties to be imposed for dereliction of duty and like offenses, and regulated in conformity with the nature of each particular case.

DIVISION OF FILES, RECORDS, AND MAILS.

The number of letters and packages received, opened, and examined during the year was 1,164,584. Of these, 1,066 contained money, and 7,221 contained stamps, envelopes, and postal cards returned for redemption.

Of the letters received, 40,860 were briefed and recorded, and filed after final action had been taken on them. The number of letters written in the office, copied, enveloped, and mailed was 12,487.

I have the honor to be, very respectfully, your obedient servant,
A. D. HAZEN,

Third Assistant Postmaster General.

Hon. FRANK HATTON,
Postmaster-General.

REPORT OF THE SUPERINTENDENT OF THE POSTAL MONEY ORDER SYSTEM.

POST-OFFICE DEPARTMENT,
OFFICE OF SUPERINTENDENT OF MONEY ORDER SYSTEM,
Washington, D. C., November 29, 1884.

SIR: I have the honor to submit the following report of the transactions of the postal money-order system for the fiscal year, which closed on the 30th of June last. The data it contains are of special interest, inasmuch as during the last ten months of that period the postal-note business, an entirely new and untried feature of the postal system of this country, was in operation at all money-order offices concurrently with the money-order business.

NUMBER OF MONEY-ORDER OFFICES.

Since the date of my last report the largest annual increase has been made to the number of money-order offices that has occurred since the system began.

On June 30, 1883, there were in operation 5,927 money-order offices. During the last fiscal year there were added 391, and discontinued 8. On June 30, 1884, there were 6,310 money order offices, and since the last mentioned date the system has been extended to 760 and discontinued at 4; making the total number of post-offices at which money-order business is now transacted 7,066.

ISSUES AND PAYMENTS OF DOMESTIC MONEY ORDERS

The number of domestic money-orders issued during the year was	
7,835,834, amounting to	\$122 121,261 04
And the number of such orders paid during the same	
period was 7,781,716, aggregating in value ..	\$121,101 697 03
In addition to which there were repaid to the re-	
mitters 60,639 money orders of the value of ..	869,385 77
Making the total amount of payments and repayments.....	121,971,082 80
And the excess of issues over payments.....	150,179 14
The gross amount of the fees received by postmasters from the public	
for the issue of domestic money orders was	950,065 79

As compared with the previous fiscal year there was an increase in the amount of orders issued of \$4,791,855.67, or 4.08 per cent.; an increase in the amount of orders paid of \$4,626,802.02, or 3.94 per cent.; a decrease in the amount of fees received of \$151,756.01, or 13.77 per cent.; a decrease in the number of orders issued of 971,862, or 11.03 per cent.

ISSUES AND PAYMENTS OF POSTAL NOTES.

The number of postal notes issued during the year was 3,689,237, aggregating.....	\$7,411,992 48
And the number of notes paid during the same time was 3,350,314, of the value of.....	\$7,155,379 52
In addition to which there were repaid at the issuing offices postal notes to the number of 48,102, and amounting to	98,746 42
Making the total amount of payments and repayments.....	7,254,125 94
And the excess of issues over payments	157,866 54
The gross amount of fees received from the public was.....	110,282 88

The average amount of the money-orders issued was \$15.58, or \$2.26 more than during the preceding fiscal year, and the average fee was 12.12 cents, or thirty-nine one hundredths of a cent less than the average fee of the preceding year.

The average amount of the postal notes issued was \$2.01.

Of the total number of transactions, the money-orders comprised 68 per cent. and the postal notes 32 per cent.

The decrease in the number of domestic money-orders issued and the increase in the amount thereof are attributable to the introduction of postal notes and to the increase of the limit of a single money-order from \$50 to \$100.

During the year the Paymaster-General of the Army purchased money-orders to the amount of \$15,241.92, for the payment of the claims of colored soldiers for services rendered in the late war. These orders were not transmitted directly from the War Department to the respective payees, but were forwarded through this office, with certain blank forms and instructions to be observed by the postmasters drawn upon in order to insure correct payment of the claims.

DUPLICATE MONEY-ORDERS.

Annexed hereto is a statement, marked B, of the number of duplicate orders issued by this office during the fiscal year ended June 30, 1884, and of the causes which rendered the issue of such duplicates necessary.

Duplicate money-orders are issued, without expense to the owners of the originals, whenever the original order has been lost or destroyed before payment, or when the original has not been paid within the limit of one year fixed by law, after which the original becomes invalid and not payable, and when the original bears more than one indorsement, which by law likewise renders it void. Duplicates are also issued in favor of the remitters of the original orders when payment of the latter has been prohibited by the Postmaster-General to fraudulent lotteries or similar schemes for obtaining money through the mails by means of false representations.

One thousand one hundred and seventy-five duplicates were issued in lieu of invalid postal notes.

DRAFTS AND TRANSFERS.

If, upon presentation of money-orders to him, a postmaster finds that he has not sufficient money-order funds for the payment thereof, he is permitted to make a transfer for that purpose from the postal funds in his hands. The total amount of such transfers made during the last fiscal year was \$904,238.80, while the sum of \$287,787.62 was retransferred to the postal fund. The balance due the latter, to wit, \$616,451.18, was repaid by a deposit made in the Treasury to the credit of the Treasurer of the United States for the service of the Post-Office Department on November 28, 1884.

When the course of business is such that the payments of money-orders habitually exceed the issues thereof, postmasters east of the Rocky Mountains are furnished with a letter of credit on the postmaster at New York City and blank drafts with which to draw against the same. Postmasters on the Pacific Slope are supplied with funds by the San Francisco, Cal., and Portland, Oreg., post-offices. The total amount of the drafts drawn against standing credits with the postmaster at New York during the last fiscal year was \$13,014,879.42, while to Western offices the postmaster at San Francisco remitted the sum of \$229,916, and the postmaster at Portland the sum of \$51,135.00.

REMITTANCES OF SURPLUS MONEY-ORDER FUNDS.

All surplus money-order funds, that is to say, funds which are not at once required at the receiving offices for the payment of money-orders, must be daily remitted to some other post-office designated as a depository for such funds, there to be used, if necessary, in the transaction of money-order business, and if not required, to be again transmitted to some other depository, until eventually the actual surplus reaches the postmaster at New York. The total amount of such remittances made during the fiscal year ended June 30, 1884, was \$110,284,059.40.

LOST REMITTANCES.

Table C, hereto annexed, is a detailed statement of the cases of alleged lost remittances of money-order funds which were reported to the Department and were under investigation during the year. The total number of such cases was 105, amounting to \$10,082.78. Of this number, 11 cases, aggregating \$1,030, occurred during the previous fiscal year, and of these latter, 6 cases, amounting to \$676, were incomplete at the end of that year, and the remaining 5 cases, of the value of \$354, were not brought to the notice of this office until after June 30, 1883.

The amount involved in 10 remittances, to wit, \$1,929.62, was recovered during the year, and 93 cases, amounting to \$8,149.16, were referred by this office to the Assistant Attorney-General for the Post-Office Department, the officer charged with the adjudication of certain claims of postmasters under the act of March 17, 1882, entitled "An act authorizing the Postmaster-General to adjust certain claims of postmasters for loss by burglary, fire, or other unavoidable casualty."

Two cases, amounting to \$4, had not yet been referred at the close of the year.

ERRONEOUS PAYMENTS OF MONEY-ORDERS.

During the year there were presented claims for reimbursement on account of the alleged improper payment of money-orders to the number of 52. The ratio of such payments to the total number of orders paid is as 1 to 149,648.

Altogether there were under investigation 110 cases, aggregating \$2,669.33, in which number are 23 cases, amounting to \$482.64, which were unsettled at the close of last year, and 35 others which occurred during that year, but were not brought to the attention of the Department until after the close of the fiscal year.

The amount of \$699.99, involved in 25 cases, was recovered by post-office inspectors and paid to the rightful payees of the orders; the payees themselves were held responsible for erroneous payment in 2 cases, amounting to \$8; in 5 cases the money (\$44.50), was found to have been correctly paid; the paying postmasters were held at fault in 27 cases, of the value of \$561.02; the Post-Office Department assumed the loss of \$154 in 7 cases; and 44 cases, amounting together to \$1,201.82, remained unsettled on June 30, 1884. (See tabular statement D, hereunto annexed.)

REVENUES AND EXPENSES.

In the report of the Auditor for this Department the receipts and expenses of the domestic money-order system for the fiscal year ended June 30, 1884, are stated as follows:

RECEIPTS.

Amount received for fees on orders issued.....	\$950,065 79
Amount of gain	380 55
Amount of premiums, &c.....	33 05

950,479 39

EXPENDITURES.

Amount allowed postmasters for commissions	\$337,985 16
Amount allowed postmasters for clerk-hire	247,618 07
Incidental expenses	100,326 06
Lost remittances, burglaries, &c	11,037 68
Bad debts	5,576 83

702,603 80

• Excess of receipts over expenditures, being gross revenue 247,875 59

It is proper to explain, with reference to the above items of "commissions" and "clerk-hire," that, under the act of March 3, 1883, the rates of compensation allowed by law for the transaction of the money-order business are uniform for all post-offices; but at offices of the first class this compensation is allowed in the form of money-order clerk-hire, while at all other offices it is allowed in the form of commissions.

The cost of books, blanks, printing, and stationery required by postmasters and the Department during the fiscal year in the transaction of domestic money-order business (included in the above item of "incidental expenses"), was \$64,778.61, of which sum a part, namely, \$20,396.04, was on account of work ordered during the previous fiscal year. The gross amount paid for books, blanks, &c., on both domestic and international account was \$71,744.24. Of this amount \$21,846.26 were paid for requisitions of the preceding year.

Herewith is submitted a table (A) exhibiting the operations of the domestic money-order system for each year since its establishment.

The following is the Auditor's report of the receipts and expenses of the postal-note business :

RECEIPTS.

Amount received for fees on notes issued..... \$110,282 88

EXPENDITURES.

Amount allowed postmasters:
For commissions \$40,278 77
For clerk-hire..... 4,271 34
Incidental expenses 31,839 38
76,389 49
Excess of receipts over expenditures, being gross revenue 33,893 39

EXTENSION OF THE INTERNATIONAL MONEY-ORDER BUSINESS.

Since the date of my last report international money-order communication has been opened with four additional countries, to wit: the Hawaiian Kingdom (Sandwich Islands), Queensland, the Cape Colony (Cape of Good Hope), and the Windward Islands. Copies of the respective conventions with these countries are hereto annexed.

International money-order business is now transacted with the following eighteen foreign countries: Canada, Great Britain and Ireland, Germany, Switzerland, Italy, France, Jamaica, New Zealand, New South Wales, Victoria, Belgium, Portugal, Tasmania, British India, Hawaiian Kingdom, Queensland, Cape Colony, and Windward Islands. The exchange with the Hawaiian Kingdom commenced on January 1, 1884, with Queensland and the Cape Colony on July 1, 1884, and with the Windward Islands on October 1, 1884.

Negotiations are now pending with Japan, Sweden and Norway, and the Leeward Islands.

At the close of the fiscal year 1,516 money-order offices were authorized to issue and pay international money-orders, and 43 new international offices have since been established.

STATISTICS OF THE INTERNATIONAL MONEY-ORDER BUSINESS.

Complete data of the transactions with each foreign country during the year, with the gains and percentages of gains over the previous year, are given in the subjoined tabular statement :

	Number of orders issued	Amount of orders issued.	Amount of orders repaid.	Number of orders paid.	Amount of orders paid.
Canadian.....	40,077	\$961,600 27	\$0,142 49	76,758	\$1,181,402 53
British.....	216,304	3,024,700 41	8,449 02	35,512	579,730 06
German.....	160,569	2,492,307 62	13,346 62	45,403	1,351,052 79
Swiss.....	15,306	295,226 64	2,200 64	4,849	140,941 11
Italian.....	27,181	736,466 35	1,435 01	1,045	28,511 60
French.....	8,813	185,825 65	1,551 57	3,605	70,871 86
Jamaica.....	139	2,770 10	23 80	1,404	37,195 65
New Zealand.....	214	5,327 45	15	1,759	22,560 13
New South Wales.....	153	3,489 09	39 61	693	14,218 78
Victoria.....	208	4,999 89	131 18	607	13,391 47
Belgian.....	914	16,134 12	173 88	1,140	23,945 91
Portuguese.....	251	7,597 03	.....	49	1,105 90
Tasmania.....	8	116 78	.....	75	998 56
India.....	81	1,244 35	29 67	505	7,049 15
Hawaiian.....	51	970 78	1 00	2,046	64,053 23
Totals.....	479,269	7,688,776 53	33,524 04	175,450	3,537,539 33

	Amount of fees received.	Amount of gain in orders issued over 1882-'83.	Percent- age of gain in issues over 1882-'83.	Amount of gain in orders paid over 1882-'83.	Percent- age of gain in payments over 1882-'83.	Amount of gain in fees received over 1882-'83.	Percent- age of gain in fees over 1882-'83.
Canadian.....	\$16,737 20	*\$54,008 35	*5.41	\$168,514 74	16.41	*\$604 50	*2.49
British	87,743 70	*169,426 23	*5.30	96,587 72	19.99	*3,461 80	*3.79
German	45,525 45	41,338 19	1.69	109,173 95	8.79	1,276 35	2.88
Swiss	5,074 90	22,713 81	8.33	16,561 04	13.31	443 70	9.58
Italian	11,758 55	90,431 00	15.07	8,531 71	42.70	1,568 30	15.39
French.....	2,500 15	14,020 35	11.51	*424 23	*00.50	1,278 75	57.53
Jamaica.....	49 65	141 48	5.38	18,090 68	104.32	3 15	6.77
New Zealand.....	89 95	490 04	10.13	2,874 91	14.60	7 75	9.43
New South Wales..	60 95	684 62	24.41	2,533 34	21.68	10 65	21.17
Victoria.....	85 80	2,324 54	86.89	2,717 34	25.67	38 70	82.17
Belgian	284 05	Exchange did not go into operation until January 1, 1883.					
Portuguese.....	121 05	Exchange did not go into operation until July 1, 1883.					
Tasmania	2 10	Exchange did not go into operation until January 1, 1883.					
India.....	50 85	361 52	40.95	2,835 28	67.28	15 30	43.04
Hawaiian	17 40	Exchange did not go into operation until January 1, 1884.					
Totals.....	170,102 35	.....	.....	.....	.....	.....	.....

*Decrease.

REVENUE FROM INTERNATIONAL MONEY-ORDER BUSINESS.

Below are given the revenues derived from the various international systems during the fiscal years ended June 30, 1883, and June 30, 1884, respectively, as reported by the Auditor for this Department:

	1882-'83.	1883-'84.
From the Canadian business	\$8,361 91	\$10,360 71
From the British business (including India)	59,717 69	42,195 75
From the German business	33,207 49	15,249 46
From the Swiss business	6,846 09	5,031 02
From the Italian business	18,164 76	20,949 61
From the French business	1,777 74	2,097 83
From the Jamaica business	91 21	194 08
From the New Zealand business.....	167 61	53 97
From the New South Wales business.....	112 75	61 42
From the Victoria business.....	94 68	70 61
From the Belgian business	123 73	263 52
From the Portuguese business .....	.....	106 38
From the Tasmania business .....	.....	4 02
From the Hawaiian business.....	.....	262 20
Loss on Tasmania business, 1882-'83	128,665 64	96,900 58
	11 39	.....
	128,654 25	.....
Total for two years .....	.....	225,554 83

GENERAL FINANCIAL RESULTS.

The total number of money-orders (domestic and international) issued during the fiscal year ended June 30 last was 8,314,963, amounting in the aggregate to \$129,810,038.51, and the total number paid was 7,957,166, amounting, with the repayments added, to \$125,542,146.17. The gross amount of fees received was \$1,120,168.14.

The sum of \$507,323.81, the same being the gross revenue, as reported by the Auditor, from domestic and international money-order business and from postal-note business, was, in accordance with the terms of section 4050 of the Revised Statutes, deposited in the Treasury to the

credit of the Treasurer of the United States for the service of the Post Office Department on the 29th day of November, 1884.

In order to make a fair showing of the net profit of the money-order business, it has been the practice of this office to deduct from the amount of gross revenue reported all such sums as were paid on account of money-order business from appropriations. Last year these items were as follows:

Salaries to 43 employes in the Superintendent's office.....	\$57,961 00
Salaries to 153 employes in the money-order division of the Auditor's office.	151,560 00
Stationery furnished for use in the Superintendent's office	504 19
Books, blanks, printing, and stationery furnished for use in the money-order division of the Auditor's office.....	8,557 69
Salaries of employes in the money-order building under the supervision of the Superintendent of the Post-Office Department.....	9,160 00
Rent of the money-order building.....	8,000 00
Estimated cost of furniture for and miscellaneous expenses of same.....	5,000 00
Total.....	240,741 88

After subtracting this sum from the gross revenue there remains a net profit of \$232,688.54, in addition to the revenue of \$33,893.39 from postal notes.

RECOMMENDATIONS.

In my report of last year I recommended that all the earnings of the money-order system be deposited in the Treasury in the same manner as other postal proceeds, and that all its expenses be paid from appropriations to be combined with those for the General Post-Office Department. I respectfully urge the passage of legislation authorizing this change, which would obliterate the distinction now existing between money-order clerks and other clerks in post-offices, and would enable a postmaster to assign his clerks to any duty in his office at his judgment and discretion. This cannot now be done under construction given to existing law, because these two classes of employes are paid from entirely separate funds.

Postal notes payable to bearer are believed to be very acceptable to many patrons of the system, because the holders thereof do not require to be identified at the office of payment. It would appear to be desirable, however, that in cases where the purchaser specially requests it, postal notes be issued payable to a designated individual or his indorsee, like money-orders, and that in such cases a record of the name of the remitter and that of the payee be kept, which record would, in case of loss, serve to establish a claim to ownership of the original note, and enable the Post-Office Department to issue a duplicate thereof. It is suggested that at the request of the remitter an advice, containing the necessary information, be drawn upon a "penalty card," and sent to the paying postmaster in the open mail without envelope, like return registry receipts. In all other cases postal notes would be payable to bearer.

The table, E, appended to this report, contains the data taken from the special returns of ten of the larger money-order offices, five Northern and five Southern, during the week ended October 25, 1884. It shows that 359 out of every 1,000 money-orders paid by those offices during that week did not exceed \$5 in amount. If this ratio is maintained throughout the United States, and there is no reason to assume that it will vary to any considerable extent, a reduction of the fee for such order from 8 cents to 5 cents would be warranted by the revenue which accrued from the system. I have the honor to recommend that the re-

duction in question be made. Upon the basis of the ratio given above, the loss from such a reduction, if it had been in force last year, would have been \$84,390.42.

The building now occupied for the Money-Order Service in Washington is totally inadequate to the needs of the rapidly growing business. Its rooms are uncomfortably crowded with employes and the necessary furniture for their use, and files and records of great value cannot be properly stored. These disadvantages retard the work of the system. I urgently recommend that, at the coming session, Congress make appropriation for additional quarters for this office and for the money-order division of the Auditor's office.

I am, sir, very respectfully, your obedient servant,

C. F. MACDONALD,
Superintendent of Money-Order System.

Hon. FRANK HATTON,
Postmaster-General.

REPORT OF THE SUPERINTENDENT OF FOREIGN MAILS.

POST-OFFICE DEPARTMENT,
OFFICE OF FOREIGN MAILS,
Washington, D. C., November 15, 1884.

SIR: I have the honor to submit the following report of the principal operations of the foreign mail service for the fiscal year 1884. Before entering upon its details, however, permit a brief tribute to the official worth and private virtues of my predecessor in this office, the late Joseph H. Blackfan, whose death, occurring in November, 1883, terminated a public service in this Department of more than thirty years, distinguished by so much fidelity, integrity and ability as to command the respect and confidence of his official superiors, and by a courteous performance of duty which endeared him to all having official relations with him.

WEIGHT OF MAILS.

The total weight of the mails dispatched during the year to countries and colonies of the Universal Postal Union, the Dominion of Canada excepted, was 1,215,572,391 grams, or 2,679,851 pounds—an increased weight over the preceding year of 146,861 pounds. The weight of the letter and post-card mails was 225,841,232 grams, or 497,889 pounds, and of the printed matter and sample mails 989,731,159 grams, or 2,181,961 pounds—an increased weight, as compared with the preceding year, of 16,412 pounds of letters and post cards, and 130,448 pounds of printed matter and samples.

Of the letters and post cards dispatched, 198,050 pounds (39.77 per cent.) were sent in mails to Great Britain and Ireland, 115,193 pounds (23.14 per cent.) to Germany, 141,759 pounds (28.86 per cent.) to other countries of Europe and to Asiatic Turkey, and 43,887 pounds (8.23 per cent.) to other Postal Union countries and colonies.

Of the printed matter and samples dispatched, 892,796 pounds (40.92 per cent.) were sent in mails to Great Britain and Ireland, 377,140 pounds (17.28 per cent.) to Germany, 450,816 pounds (20.65 per cent.) to other countries of Europe and to Turkey in Asia, and 461,209 pounds (21.15 per cent.) to other Postal Union countries.

Compared with the weights of mails dispatched during the preceding year, the increase of letter and post-card mails was 3.41 per cent., and of printed matter and sample mails 6.36 per cent.

The following table shows the percentages of the correspondence dispatched by countries:

Countries.	Letters and post cards.	Prints and samples.
	<i>Per cent.</i>	<i>Per cent.</i>
Great Britain.....	39.77	40.92
Germany.....	23.14	17.28
France.....	5.51	5.80
Sweden.....	5.43	3.04
Italy.....	3.63	2.47
Norway.....	2.92	1.74
Austria.....	2.84	1.59
Switzerland.....	1.85	1.86
Russia.....	1.50	.61
Denmark.....	1.49	.64
Netherlands.....	1.17	.86
Belgium.....	.82	1.05
Spain.....	.58	.87
Portugal.....	.33	.24
Turkey.....	.18	.49
Cuba.....	1.67	2.70
Porto Rico and other West Indies.....	1.38	3.20
Hawaiian Islands, Japan, Hong-Kong, Shanghai, Manila, Tahiti, Marquesas Islands, Java, Straits Settlements, New Caledonia, Cochin China.....	1.65	3.60
United States of Colombia and other Central American countries.....	1.08	2.83
Brazil and other South American countries.....	1.33	4.12
Mexico.....	1.02	4.27
Newfoundland, Islands of St. Pierre and Miquelon.....	.10	.43

Reference is made to the tables accompanying the report of the Auditor of the Treasury for the Post-Office Department for the separate weights of the mails dispatched to the several countries of the Postal Union.

The number of letters exchanged with countries and colonies not embraced in the Postal Union, including 187,582 sent to British Columbia and Nova Scotia by sea, was 198,157, of which number 375,380 were sent to and 22,777 received from such countries.

Compared with the preceding year, these figures show an increase in the number of letters sent of 7,350, and a decrease in the number received of 19,793; but this decrease is apparent only, and results from the fact that no record is made in the United States of letters received from Canada by maritime services.

COST OF THE FOREIGN MAIL SERVICE.

The sums reported for payment on account of sea transportation of the mails dispatched to and received from foreign countries during the year amounted to \$327,207.91, to which sum there is to be added \$5,013.30, the amount credited to France in the quarterly accounts with the French postal administration for the conveyance of United States mails during the year, by French contract packets, from New York to Havre. These amounts combined make, as the total cost of the maritime service for the fiscal year, \$332,221.21, \$275,962.74 of which were for the transatlantic, \$19,125.78 for the transpacific, and \$37,132.69 for the West Indian, Mexican, Canadian, Newfoundland, and Central and South American services. The expenditures of the year on this account exceeded those of the previous year \$15,699.08, or nearly 5 per cent. Particulars of these services are appended in statement marked A.

The transit and postage accounts relative to the exchanges of the year have been only partially adjusted and settled with other administrations. In the settlements thus far made of such accounts, \$30,379 have been allowed to other administrations, and this Department has

received credit for the sum of \$105,623.51, of which \$102,867.42 represents the credit by the British office for the territorial transit of British and Australian closed mails during the fiscal year 1883-'84.

The expenditures (chargeable to the foreign mail service).on account of the United States postal agencies at Shanghai, China, and Panama, United States of Colombia, for office rent, clerk hire, portorage of mails, and other miscellaneous items, amounted during the year to \$1,773.15 for the Shanghai agency, and \$840 for the Panama agency—in all, \$2,613.15. From this amount it is proper, however, to deduct the sum of \$330, collected as box rents by the Shanghai agent, and debited against him in his accounts with the Department, leaving the net cost of the two agencies for the year \$2,283.15.

The amounts estimated as necessary for appropriation for foreign mail service for the fiscal year 1885-'86 are as follows :

For ocean transportation of mails	\$425, 000
For balance due foreign countries, including the United States' portion of the expenses of the International Bureau of the Postal Union, and the subscription of the Department for copies of the monthly journal of the Union, "l'Union Postale"	75, 000
Total.....	\$500, 000

The above estimate for ocean transportation is based, like those for the transportation of previous years, upon the allowance of the sea post-ages only. If, in pursuance of section 4009, Revised Statutes, the full sea and inland postages be allowed and paid for the conveyance of the mails by all United States vessels, additional provision by Congress will be required.

FOREIGN MAIL STATISTICS.

Estimate of the amount of mail matter exchanged during the fiscal year ended June 30, 1884, based upon the count of such matter exchanged during seven days in October, 1883, and seven days in April, 1884, as made at United States exchanging post-offices in pursuance of the Postmaster-General's order of September 10, 1879.

	Sent.	Received.	Total.	Excess of sent over received.	Excess of received over sent.	Percentage of sent.	Percentage of received.
Number of prepaid letters.	32, 528, 240	26, 990, 099	59, 518, 339	5, 538, 141	.....	54. 66	45. 34
Number of unpaid and insufficiently paid letters..	645, 986	1, 321, 214	1, 967, 200	.....	675, 228	32. 84	67. 16
Number of free-of-postage letters	153, 788	92, 722	246, 510	61, 066	.....	62. 39	37. 61
Total number of letters ...	33, 328, 014	28, 404, 035	61, 732, 049	4, 923, 979	.....	53. 99	46. 01
Total number of single rates	36, 755, 932	31, 503, 330	68, 259, 262	5, 252, 602	.....	53. 84	46. 16
Number of postal cards...	1, 672, 458	1, 288, 673	2, 961, 131	383, 785	.....	56. 48	43. 52
Number of packets of newspapers, other printed matter, and business papers	20, 712, 464	21, 747, 784	42, 460, 248	1, 035, 320	.....	48. 78	51. 22
Number of packets of samples of merchandise.	297, 048	519, 561	816, 609	.....	222, 513	36. 38	63. 62
Number of registered articles	574, 576	666, 971	1, 241, 547	.....	92, 395	46. 28	53. 72
Number of demands for return receipts	11, 916	19, 375	31, 291	.....	7, 459	38. 08	61. 92
Prepaid postages on letters	\$1, 511, 047 80	.....	.....	.....	.....	.....	.....
Prepaid postages on printed matter	\$468, 298 46	.....	.....	.....	.....	.....	.....
Registration fees paid on packets sent.....	\$57, 457 60	.....	.....	.....	.....	.....	.....
Unpaid postages on letters, printed matter, &c	\$25, 843 97	\$184, 481 17	\$160, 825 14	.....	\$108, 637 20	16. 12	83. 88

From the foregoing statement it appears:

1. That of the correspondence exchanged 53.99 per cent. of the letters, 56.48 per cent. of the post cards, 48.78 per cent. of the newspapers, other prints and business papers, and 36.38 per cent. of the samples of merchandise were dispatched from the United States.
2. That 97.6 per cent. of the letters sent to foreign countries were fully prepaid, that 1.9 per cent. were unpaid or insufficiently prepaid, and that .45 per cent. were free of postage.
3. That 95 per cent. of the letters received in the United States from foreign countries were fully prepaid, that 4.65 per cent. were unpaid or insufficiently prepaid, and that .35 per cent. were free of postage.
4. That of the total number of postal articles sent, 59.51 per cent. were letters; 2.98 per cent. were postal cards; 36.98 per cent. were newspapers, other prints and business papers, and .53 per cent. were samples of merchandise.
5. That of the total number of postal articles received 54.66 per cent. were letters, 2.48 per cent. were postal cards, 41.85 per cent. were newspapers, other prints and business papers, and 1 per cent. were samples of merchandise.
6. That the estimated amount of postages collected in the United States on unpaid and partially prepaid mail matter received from other countries was nearly 84 per cent. of the total unpaid postages, and exceeded the estimated amount of unpaid postages on the mail matter sent to other countries in the sum of \$108,637.20.
7. That the estimated total postages and registration fees collected in the United States on the mails exchanged with foreign countries, less the postages collected on post cards sent, which the statistical data obtained does not show, amounted to \$2,198,029.

EXTENSION OF THE POSTAL UNION.

1. The regimen of the Universal Postal Union has been extended during the year to Assab, Abyssinia, on the bay of that name on the Red Sea, by the establishment there of an Italian post-office, and to Obock, on the east coast of Africa, by the establishment at that place of a French colonial post-office.

2. The territory embraced in Patagonia, Terra del Fuego, and the adjacent islands, including Isla de Estados, which was partitioned between the Argentine Republic and Chili in 1881 by treaty, has, in consequence of this division, become Postal Union territory.

The application for entrance into the Postal Union of Cape Colony, South Africa, noticed in the report of my predecessor for 1883, together with the application, subsequently made by the Government of Great Britain, for the admission of the colonies of Victoria, New South Wales, South Australia, and Tasmania, on special conditions similar to those proposed for Cape Colony, have been referred for decision to the Postal Congress to be held in Lisbon in February next.

MODIFICATIONS OF POSTAL ARRANGEMENTS.

Paragraph 7 of Article XXX of the Regulations of Detail and Order for the execution of the Paris Convention has been modified, to take effect July 4, 1884, to read as follows:

7. In the questions to be decided by unanimous assent, or by the majority of the Union administrations, those administrations which, have not sent in their replies within the maximum delay of six months *counting from the date of circular of the International Bureau in which*

the questions have been submitted, are considered as expressing no opinion.

Paragraph 10 of Article XXXII, of the same Regulations, has also been modified, to take effect August 1, 1884, as follows:

10. The post-offices which the Japanese administration has established at Shanghai, China, at Fusampo, at Genzanshin, and at Jinsen, Corea.

By vote of the administrations of the Union it has been determined that, from October 1, 1884, Article XVII of the Paris Regulations, which defines "printed matter" for Postal Union exchanges, shall be construed as assimilating with the articles of printed matter enumerated in said article raised drawing models on pasteboard.

With respect to this decision, the postal administrations of Russia and Sweden have given notice that the drawing models in question are excluded from their postal exchanges with other countries because of the liability of such articles to customs duties.

Under the act of Congress approved June 9, last, reducing to 1 cent per 4 ounces or fraction thereof the United States postage on second-class matter sent by others than publishers or news agents, the postage charge on such matter mailed in the United States and addressed to the Dominion of Canada was similarly reduced, the postal arrangement with Canada providing for the application of the domestic postage rates of each country to the prepaid international mail matter exchanged between them, samples of merchandise excepted.

A special agreement was concluded January 2, last, with the postal administration of the Argentine Republic, which went into operation February 1, 1884, by which the limits of weight and the dimensions of packets of samples of merchandise exchanged in the mails between the two countries were increased to 350 grams (12 ounces) in weight, 30 centimeters (12 inches) in length, 20 centimeters (8 inches) in breadth, and 10 centimeters (4 inches) in depth.

Similar agreements are now in force between the United States and Great Britain, France, Belgium, and Switzerland.

The special postal convention with Mexico, the terms of which have been arranged, and which is intended to be put into operation on January 1 next, if ratified by the Mexican Government and approved by the President of the United States, was designed to secure to postal exchanges between the two countries the fullest possible advantages of existing and prospective international railway communication, by making the domestic postal systems of the respective republics the basis of the exchange, instead of the somewhat cumbersome methods of the Postal Union regulations, the application of which, in the international relations of contiguous countries, occasions delay of the mails at frontier exchanging post-offices for special treatment.

The principal provisions of this convention are as follows:

1. The application of the domestic postage rates and conditions of the United States to all mail matter sent therefrom addressed to Mexico, excepting samples of merchandise, ores, &c., which, while subject to United States domestic rates, will be limited in weight and size of packets to 12 ounces weight, and 12 by 8 by 4 inches in dimensions, in order to restrict exchanges of packets of such articles to those not having salable value and consequent liability to customs duties and detentions, on that account, in the country of destination.

2. The application to mail matter sent from Mexico, addressed to the United States, of the Mexican domestic conditions (except for packets of samples of merchandise, which are to be limited in weight and size *as above stated*), and the following rates of postage, which are consider-

ably lower than the rates applicable to the same matter in the Mexican interior postal service:

Letters, per 15 grams, 6 cents. Post cards, each, 3 cents. Second-class matter, 4 cents per 480 grams=17 ounces, nearly. Third and fourth-class matter, including samples of merchandise, &c., 2 cents per 50 grams=2 ounces, nearly.

3. Registration of all mail-matter at a fee of 10 cents per packet in both countries.

Second, third, and fourth class matter embrace generally, in Mexico, the articles so classed in the United States, but in Mexico commercial or business papers, which are first class in the United States, are third class.

4. The postage rates to be levied under this convention are never to exceed the domestic postage rates of either country.

5. All unpaid postages on first-class matter are to be collected and retained by the country of destination.

6. No charge is to be made by the country of destination on official correspondence exempt from postage in the country of origin.

7. Request letters are to be returned directly to senders at the expiration of the time indicated for their retention, and card letters after thirty days from the date of receipt.

8. Each country is to furnish the gratuitous use of its territory and postal services for the conveyance of the domestic mails of the other passing in closed pouches from one point to another of the country of origin.

EXPEDITION OF MAILS.

The system, now in vogue, of dispatching transatlantic mails from New York by those of the steamers tendered for mail conveyance which promise the earliest delivery of the correspondence, regardless of the dates of sailings, has given great satisfaction in this country, and provoked much favorable comment in England. There can be little doubt that the example thus set by this Department will be followed at a not distant date by the British post-office with regard to the mails forwarded from and via England to this country.

An extension of this principle may advantageously be applied with respect to the mails for France, the Netherlands, and Belgium, now forwarded by direct steamers from New York; to those from Boston for Great Britain, France, and Belgium, sent by Cunard steamers to and via England; to those for Great Britain and Belgium, forwarded direct from Philadelphia; and to those for Germany direct, dispatched from Baltimore. The steamers by which these mails are conveyed are much inferior in speed to those now available for mail conveyance from New York, and loss of expedition attends their use. The expense for territorial transit of some of these mails which would be involved by the change suggested would be comparatively small and of little importance in view of the advantage to be gained in expedition and the credit of the postal service.

Postal exchanges with Mexico have been much improved and expedited during the year by the use of Mexican postal services put into operation on the lines of railway in that country which connect with United States railway service at the frontier. The extension, in April last, to Mexico City of the Mexican Central Railroad has especially served to facilitate postal intercourse, furnishing, as it does, daily mail

connection between this country and the more populous portions of our sister republic.

A better acquaintance with Mexican interior post routes and distributing postal centers connecting with and located upon the main lines of Mexican railways is needed in our service in order to a more advantageous distribution of mails. Correct information on this point, the improvement of the Mexican railway postal service which experience will naturally bring about, and the putting into operation of the recently executed special postal convention between the two countries, now awaiting ratification by the Mexican Government and approval by the President of the United States, will produce most satisfactory results in the international postal and commercial relations of the two countries.

A steamship line between New Orleans and Colon (Aspinwall), via ports on the east coasts of Costa Rica and Nicaragua, recently started, has furnished an opportunity for dispatching mails once, and sometimes twice, a month direct to Greytown, Bluefields, Port Limon, and the United States of Colombia from New Orleans. The permanent establishment of this line, with an itinerary for regular dispatches not less frequently than semi-monthly, is anticipated, in which case it offers for mail matter originating in the south and southwest decided advantages in point of expedition over the service from New York to the ports named.

LEGISLATION NEEDED.

The repeal by the act of last session (chapter 121), to take effect April 1 next, of sections 3976 and 4203, Revised Statutes, cannot be otherwise than disadvantageous to public interests and embarrassing to the Department.

These laws, while providing that the clearance of vessels from United States ports shall depend upon their acceptance, conveyance, and proper delivery of mails offered by the Government and the officials named therein, have, so far as is known, furnished no other cause of complaint by owners or agents than the insufficiency of the compensation allowed by law for the carriage of the mails, and only in very rare cases has this objection been urged. It has not been claimed that vessels were detained awaiting mails at ports of embarkation, or that the conveyance and delivery of the mails has been attended with especial difficulty or inconvenience disadvantageous to the interests of the owners or agents of the vessels. The insufficiency of compensation is remedial by Congress.

Intimation has already been given of a purpose to take advantage of the repeal of these statutes by the refusal of at least one line to convey certain mails except upon terms prescribed by it.

Without the authority to contract for maritime mail services, or having such authority and being unable to secure contracts in the case of services of inconsiderable importance, or for any other cause, the Department must experience much difficulty, and public and commercial interests involved must suffer loss and inconvenience unless legislative relief be afforded.

In this connection, and as pertinent to the subject, reference is made to that portion of the Postmaster-General's Report for 1883 relative to the compensation of the sea and inland postages for the sea conveyance of United States mails by American vessels.

I recommend that Congress be asked to make the necessary provision to enable the Department to apply the law on that subject, contained in section 4009, Revised Statutes, to mail transportation performed by United States ships from the 1st of July last, inclusive.

The existing statutes fixing rates of postage on mail matter brought from abroad by vessels regularly employed in the conveyance of mails and by those not so employed, including the statute which authorizes the collection of double postage on "ship letters," need revision and modification in order to a more simple and uniform practice in the levy of postages and settlement for the sea conveyance of the mail matter, as well as to remedy the apparent injustice of collecting postage from the addressees of ship letters at double rates *according to the weight of the letters*, while paying for the sea conveyance at *so much per letter without reference to the weight*.

It would simplify the practice and give general satisfaction, I think, to so change the existing law as to apply the unpaid rates of the Postal Union to all mail matter received from countries not in postal relations with this, and also to mail matter received outside of the regular mails originating in countries which are in postal relations with the United States, allowing for the value of all uncanceled United States postal stamps applied to it, and providing for payment of the sea and inland postages as compensation for the conveyance by American vessels of the matter named in said statutes, and the sea postages only to other vessels for their conveyance of such matter.

I renew the recommendations which my predecessor made in his report of last year, and in previous reports, for a modification of section 17 of the act of March 3, 1879, to enable addressees to receive through the mail, in the same manner as books, other dutiable articles reaching the United States in mails from abroad, and for the participation of the United States with the other countries of the Postal Union in the exchange of post cards with paid reply.

SAN FRANCISCO AND AUSTRALIA MAIL SERVICE.

Attention is again invited to the mail steamship service between San Francisco and the Australian colonies. In presenting this subject in his report for 1883 the Postmaster-General alluded to a reported renewal of the contract under which this service has been performed for the Governments of New South Wales and New Zealand by the Pacific Mail Steamship Company, and a threatened discontinuance of the service should the United States fail to contribute to its maintenance. The renewed contract is for a term of two years from November 29, 1883. The subsidy payable under it to the contractors is £50,000 per annum, of which New Zealand contributes £31,250, and New South Wales £18,750. The contract contains the following clause:

The contractors will endeavor to obtain from the Government of the United States, or from other sources, a contribution on account of the amounts payable under this contract for carrying the said mails from Sydney to San Francisco, and from San Francisco to Sydney, and from Auckland to San Francisco, and from San Francisco to Auckland, equal to one-third of the total amount of the moneys payable hereunder for such services. And it is hereby expressly agreed that if any such contribution shall be obtained as aforesaid, the same shall be applied and go in reduction of the payments agreed to be made under this contract, and that, as between the Postmaster-General of New South Wales and the Postmaster-General of New Zealand, such reduction shall be divided equally between them in respect of the payments agreed

to be made under this contract. And it is hereby also expressly declared and agreed between the several parties hereto that if the contractors shall not succeed in obtaining such contribution, as aforesaid, it shall be lawful for the Postmaster-General of the colony of New South Wales to withdraw from this agreement at the end of twelve calendar months from the said twenty-ninth day of November, one thousand eight hundred and eighty-three, on giving three months' previous notice to the contractors of his desire so to do.

It is, however, stipulated that in the event of the withdrawal from the contract of New South Wales the contractors may be required to continue the service with New Zealand alone for the remainder of the contract term for £31,250 per annum.

I am, very respectfully, your obedient servant,

JAS. S. CRAWFORD,
Superintendent of Foreign Mails.

Hon. FRANK HATTON,
Postmaster-General.

REPORT OF THE TOPOGRAPHER OF THE POST-OFFICE DEPARTMENT.

POST-OFFICE DEPARTMENT, TOPOGRAPHER'S OFFICE,
Washington, D. C., October 27, 1884.

SIR : During the past year the regular work of keeping up the exhibit of the mail service of the country on the maps and diagrams used by the officers and clerks in the several Bureaus, as well as furnishing the special aid of this office to the different branches of the Department, has been accomplished to the full capacity of the force employed.

For the daily use of the officers and corresponding clerks of the contract office and appointment office, the Postmaster-General, the general superintendent of the railway-mail service, and the topographer's office, 11 sets of diagrams, comprising 275 maps, are kept up, showing the actual state of the service at the beginning of each month throughout the entire country. There are also brought up, at longer intervals than a month, 8 sets of diagrams (200 maps) for reference in the under-named offices: Finance, money-order, post-office inspector, dead-letter, assistant attorney-general for Post-Office Department, and Sixth Auditor of the Treasury Department (located in the Post-Office Department building).

In procuring data for the original construction of and for additions to the post-route maps, 170 letters of inquiry have been addressed to engineers and other officers of railroads, in most cases with inclosure of a special tracing of the immediate surrounding country, made in this office, to facilitate their returning the exact lines of their roads, for transference to our maps. With the same view, 617 circular queries have been sent to postmasters to get the locations of their post-offices, in cases where the description in the data furnished through the appointment office is inadequate, or where definition of site and adjacent topography better than that on file is required.

The miscellaneous correspondence of the topographer, exclusive of the above-mentioned circulars, consisted of 3,090 letters. The number of letters received, exclusive of these returned circular queries, was 3,028.

The distribution of the post-route maps during the past year amounted to 12,878 sheets. Of these the greater part was issued to agents of the Department, including postmasters, officers and clerks of the railway-mail service, and inspectors; the remainder being furnished, at request, to Bureaus of other Governmental Departments, members of both houses

of Congress, State authorities, educational and scientific institutions, libraries, &c. A large proportion (40 per cent.) of the maps distributed was backed with muslin and mounted on rollers or bound for portable use.

Maps have been furnished, in compliance with request, to the following Bureaus, namely:

Treasury Department: Bureau of Statistics; Director of the Mint; United States Coast and Geodetic Survey.

War Department: Office of the Secretary; Chief of Engineers, U. S. A.; Paymaster-General, U. S. A.; Quartermaster-General, U. S. A.; Chief Signal Officer, U. S. A.

Department of the Interior: General Land Office; Pension Office; Indian Affairs; Bureau of Education; United States Geological Survey.

Department of Justice.

Department of Agriculture.

National Board of Health.

There is appended hereto a detailed statement of the distribution of the post-route maps during the past year, with a side comparison with the distribution for the two preceding years.

The calls for certificates of distances required in the settlement of mileage accounts by officers of the public service, and in the adjustment of telegraph rates and pay for Governmental messages (attention to these calls being one of the duties of the topographer of this Department), have been, as usual, promptly answered. For this, 500 letters, including telegrams, have been answered, covering 794 queries.

The want of a new and revised edition of the "Tables of Distances," originally computed in this office, by direction of the Postmaster-General, in 1873, continues to be felt. These tables, though correct at that time, have long been obsolete, numerous new railroads and other changes in the intermediate routes having altered the total distances therein given. Applications are received almost daily from accounting officers of the Government and from others for statements or certificates of distances. Although many of these applications refer to dates twenty or more years ago, which always will require special research, yet a table of present distances would cover the greater part of the requests now referred to this office.

During the past year the production of successive editions of the post-route maps, by means of prints from lithographic stones, has continued to be satisfactory. These editions are furnished under contract, bi-monthly, the stones, before the printing of each edition, being brought up according to the corrected sheets prepared by the draughtsmen of this office.

New maps of the State of Florida and of the Territories of New Mexico and Arizona have been completed during the past year. To replace existing preliminary maps, drawings are in preparation for the map of Kansas and Nebraska, and for that of California and Nevada, and others will be taken up as required.

Arrangements have been made for providing at an early day, for the use of the general superintendent of the railway-mail service and his assistants, copies of a map showing the railway system of the United States and its connections with Canada and Mexico, on a scale sufficient for this purpose. Such a map, as giving a general view of the communications by land and water over this continent, will, it is expected, prove of much use in various Bureaus both of the Post-Office Department and of other Departments.

I respectfully submit that there be retained in the appropriation bill

the proviso for the sales of maps, at cost, to the public, the proceeds to be used as a further appropriation. This will allow these sales being made without lessening the amount available for the work proper of the office, and will thereby carry out the intention of the Committee of Congress in originally inserting the proviso in the bill.

I take pleasure in testifying to the general faithful and steady work of the employees of this office.

Very respectfully, your obedient servant,

W. L. NICHOLSON,
Topographer, Post-Office Department.

Hon. FRANK HATTON,
Postmaster-General.

REPORT OF THE CHIEF POST-OFFICE INSPECTOR.

POST-OFFICE DEPARTMENT,
OFFICE OF CHIEF POST-OFFICE INSPECTOR,
Washington, D. C., October 28, 1884.

SIR: I have the honor to transmit herewith some figures showing the work of post-office inspectors and of the office of mail depredations during the fiscal year last past.

. It would be difficult, and perhaps hardly becoming, in a statement of this nature, to define specifically or to dwell at length upon the duties of inspectors. They are, in general, to look after the welfare of the service, to protect its rights and remedy its errors, and in so doing to keep in view the good of the public and lend their aid in perfecting the postal system.

I think I may be pardoned if I feel a just pride in speaking of the faithful manner in which the force has worked, and of the efficiency with which their duties have been performed.

In the course of the year, attention having been called to violations of the postal laws and regulations, arrests of parties so offending have followed, and this leads me to speak of

ARRESTS AND CONVICTIONS.

The arrests caused by post-office inspectors and others during the year numbered 756 of which 698 were for offenses which were tried in United States courts, and 58 in State courts. Of the former class of offenders there were 36 postmasters, 24 assistant postmasters, 31 clerks in post-offices, 8 railway postal clerks, 25 letter carriers, 25 mail carriers, 53 burglars, and 496 included all others for various offenses; 439 convictions were had, and 88 acquittals, while 151 are awaiting trial. Proceedings were dismissed in 14 cases, and 3 forfeitures of bail were taken. Three prisoners escaped.

In the State courts 58 proceedings were had, of which 34 were for burglaries and 24 for all other offenses. Of these, 33 convictions were had and 3 proceedings were dismissed, 10 offenders were left to be pros-

ecuted by their employers, and 12 are awaiting trial. This will appear more clearly from the following table:

SUBJECT TO JURISDICTION OF UNITED STATES COURTS.

Classification of offenders.		Disposition of cases.	
Postmasters	36	Convicted	439
Assistant postmasters	24	Acquitted	88
Clerks in post-offices	31	Escaped	3
Postal clerks and route agents	8	Forfeited bail	3
Letter carriers	25	Proceedings dismissed	14
Mail carriers	25	Awaiting trial	151
Other employes	4		
Burglars	53		
All others, for various offenses	492		
Total	698	Total	698

SUBJECT TO JURISDICTION OF STATE COURTS.

Burglars	34	Convicted	33
All other offenders	24	Turned over to employers	10
		Proceedings dismissed	3
		Awaiting trial	12
Total	58	Total	58

CASES REFERRED TO INSPECTORS AND ACTED UPON BY THEM.

Five hundred and four thousand and ten cases were referred to inspectors during the year. These are divided into depredation cases, miscellaneous cases, and foreign cases. The depredation cases include registered and ordinary cases, which subdivision applies as well to the foreign.

1. *Registered cases, Class A, 4,238.*—These refer to complaints of depredations upon domestic registered matter only. Foreign complaints will, for convenience, be treated separately further on. Of these complaints 943 letters with valuable contents were reported lost; 1,278 value not stated; 342 registered packets were reported lost; 297 became separated from the registered-package envelope; 1,147 cases of rifling letters and packages of their contents were reported; 45 complaints were of tampering, 84 of wrong delivery, and 50 of detention. Investigation of 2,501 of these complaints resulted as follows: 305 of the letters of value of which the contents were stated were found to have been delivered or satisfactorily accounted for, and 622 where the value was not given; in 220 cases the complaints of the loss of packages were found to have been incorrectly made; 190 of the packages lost from the registered-package envelopes were found to have reached their addresses in safety. Of the complaints of rifling 255 were shown upon investigation to have been falsely made. This class of complaint seems to be a growing one. Parties, either purposely or otherwise, omit to make an inclosure, and when the letter is received without it, although in perfect condition, they stoutly persist in claiming that the inclosure was made. On the other hand, parties addressed frequently attempt, from motives of their own, to deny the receipt of inclosures. This state of facts makes this class of complaints exceedingly difficult to investigate.

Of the complaints of tampering, investigation of 22 satisfactorily explained them. Of the complaints of wrong delivery, 48 were satis-

satisfactorily accounted for and 29 detentions were fully explained. Investigation of 468 cases showed actual loss to have occurred. In this connection I will refer for a moment to the foreign registered cases. By foreign is meant the mails going to or coming from foreign countries. This office received 4,127 inquiries relating to foreign registered letters, including complaints of losses, rifling, tampering, wrong delivery, &c. These complaints originated both in this country and with foreign postal administrations.

Adding this sum to the domestic complaints received, 4,238, we have 8,365 complaints concerning the registered mail during the year. Of these, 6,433 were investigated and 1,932 are still undergoing investigation. Of the complaints investigated actual loss was found to have occurred in 516 cases. Now, assuming the proportion of loss to be as great in the complaints still undergoing investigation as in those investigated, we may state the total loss occurring during the fiscal year in the registered mail as approximately 672 pieces. Comparing this with the total number of pieces registered, 11,246,545, the proportion of loss will be seen to be very small. I would add that the losses were from all causes, as burning and robberies of post-offices, railway accidents and other unavoidable casualties, and ordinary thefts.

The amount of money recovered and returned to the owners in 772 registered cases was \$17,932.33.

Ordinary cases, Class B, 33,668.—For convenience, foreign complaints and inquiries concerning ordinary mail matter will be spoken of subsequently. This class of cases relates to ordinary mail matter and casualties of all kinds happening to the mails. Twenty thousand three hundred and seventy-seven ordinary letters were reported as lost, of which 14,641 were said to have contained inclosures, and 5,736 in which no mention was made of contents. Twelve thousand and seventy-eight ordinary packets (fourth-class matter) were reported as lost. Upon investigation, 1,809 letters and 1,101 packets were found to have eventually reached destination or were otherwise satisfactorily accounted for; 467 post-offices were reported to have been robbed and 278 to have been destroyed by fire; 23 highway robberies of the mail were reported and 24 postal cars were burned; 55 pouches were lost by mail carriers on star routes; 98 were stolen from stages, platforms, cranes, &c.; 7 were lost in floods and 26 were reported as cut and their contents rifled; 98 complaints were received of specific depredations on the ordinary mail by postmasters.

On account of losses in the ordinary mail the amount of money recovered and returned to the owners in 24 cases was \$266.48.

Miscellaneous cases, Class C, 4,870.—This class of cases includes all matter which does not relate to depredations upon the mails, and is very largely confidential in its nature. It is such as is referred by the other branches of the Department for information. Bonds of postmasters, location and practicability of star routes, inspection of postmasters' accounts, examining complaints of all sorts of violations of the postal laws by persons in the service, and others not purely depredations, are comprehended in this class.

The amount of money collected from delinquent postmasters and others and on account of fines and penalties amounted during the year to \$26,927.11.

Foreign cases, Class F, 7,634.—The whole number of cases reported upon allegations of loss and non-receipt between the United States and foreign countries during the fiscal year was 7,634, divided as follows: 3,507 ordinary articles of mail matter and 4,127 registered ar-

ticles. Of these reports more than 1,300 originated with England and British Possessions, nearly 1,400 with Germany, and about 1,450 with all other foreign countries, while the remainder, about 3,500, were of domestic origin. The number of foreign cases closed for the year is 8,281, of which 4,454 relate to registered articles and 3,827 to ordinary unregistered articles. Of the registered articles 99 remained unaccounted for, while of the ordinary cases 2,118 were closed without the losses being located. The approximate number of communications received from foreign countries for the year requiring translations were 6,000. The number of cases now awaiting replies from foreign countries is 900.

RECAPITULATION OF CASES INVESTIGATED AND REPORTED UPON DURING THE FISCAL YEAR ENDING JUNE 30, 1884.

Registered cases, including those referred in previous years	4,590
Ordinary cases, including those referred in previous years	28,930
Miscellaneous cases, including those referred in previous years	5,223
Foreign cases, including those referred in previous years	8,491
Total	47,134

I would add that the above figures indicate only the regular work sent out by the Department, but do not include the heavy correspondence which each inspector is obliged to conduct in the ordinary course of his duties.

Postmasters and the public are constantly making inquiries and complaints, which of necessity require immediate attention, and of which this office cannot take note. Especially is this the case with inspectors who are located in the large cities. The local work alone is generally sufficient to keep them busily engaged at all times. This fact should be considered with the data given in the report.

Very respectfully,

A. G. SHARP,
Chief Inspector.

HON. FRANK HATTON,
Postmaster-General.

REPORT OF THE AUDITOR OF THE TREASURY FOR THE
POST-OFFICE DEPARTMENT.

OFFICE OF THE AUDITOR OF THE TREASURY

FOR THE POST OFFICE DEPARTMENT.

Washington, D. C., December 5 1884.

SIR: I have the honor to submit herewith the annual report of the receipts and expenditures of the Post-Office Department, as shown by the accounts of this office, for the fiscal year ending June 30, 1884.

REVENUE ACCOUNT OF THE POST OFFICE DEPARTMENT.

Fiscal year 1884.

The revenues of the Department for the fiscal year ending June 30, 1884, were	\$43,225,668 81
The expenditures for the service of the year were	46,404,000 65
Excess of expenditures	3,079,001 84
Amount of balances due by late postmasters charged to "bad debt" and "compromise" accounts	\$7,564 41
Amount of balances due by late postmasters charged to "suspense" account	591 42
	8,456 83
Deficiency for 1884	2,070,545 01

This deficiency was supplied as follows:

From surplus postal revenues of 1882.....	\$1,294,752 74	
From surplus postal revenues of 1883.....	1,775,793 27	
		<u>\$3,070,546 01</u>

Fiscal year 1883:

The surplus postal revenues accrued during 1883 unexpended at the close of the last annual report were.....	2,653,189 23	
The amount paid for the service of 1883 during the last fiscal year was	650,560 23	
		<u>2,002,629 00</u>
Of this surplus there was expended for the service of 1884, as shown in above account with that year	1,775,793 27	
		<u>226,835 73</u>

Fiscal year 1882:

The surplus postal revenues accrued during 1882 unexpended at the close of the last annual report were.....	1,325,785 57	
The amount paid for the service of 1882 during the last fiscal year was.....	31,032 83	
		<u>1,294,752 74</u>

The amount no longer available for the service of 1882, transferred to and expended for the service of 1884, as per above account with that year, is

Fiscal year 1881 and prior years (claims):

The amount appropriated by the act approved July 7, 1884 (Statutes last session, pages 259 and 262), placed with the Treasurer to the credit of the Department, was.....	95,476 99	
The amount expended to September 30 last was.....	94,830 29	
		<u>646 70</u>

The amount appropriated by the act approved July 7, 1884 (Statutes last session, page 248), "to pay accounts in cases of salaries of postmasters and late postmasters readjusted and allowed under the act of March 3, 1883," placed with the Treasurer to the credit of the Department, was	45,213 80	
Amount expended to September 30 last	42,736 30	
		<u>2,477 50</u>

Balance available for such accounts

Fiscal year 1882 and prior years:

The balance withheld by postmasters, under section 3861 Revised Statutes, as compensation for 1882 and prior years, in excess of appropriations, per accounts received and audited since last annual report, was	439 97	
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GENERAL REVENUE ACCOUNT.

Postal revenues of 1884.....		43,325,958 81
Expenditures for 1884.....	\$46,404,960 65	
Expenditures for 1883.....	650,560 23	
Expenditures for 1882.....	31,032 83	
Expenditures for 1881 and prior years (claims).....	94,830 29	
Expenditures for readjusted salaries of postmasters..	42,736 30	
Expenditures for salaries of postmasters for 1882 and prior years.....	439 97	
		<u>47,224,560 27</u>
Total paid out		
Add balances due by late postmasters charged to "bad debt," "compromise," and "suspense" accounts during the year.....	8,455 83	
		<u>47,233,016 10</u>
Aggregate expenditures		
Excess of expenditures over revenues during 1884.....		<u>3,907,057 29</u>

Grants from the Treasury for 1881 and prior years (claims).....	\$95,476 99	
Grants from the Treasury to pay readjusted salaries of postmasters.....	45,213 80	
Total of grants.....		\$140,690 79
Excess of expenditures over all receipts during 1884.....		3,766,366 50
The balance standing to the credit of the general revenue account at the commencement of the fiscal year 1884 was		7,443,102 57
The balance standing to the credit of the same account at the close of the fiscal year was		3,676,736 07
Of which there was due by late postmasters	{ in suit \$226,467 83 not in suit. 82,820 95	
		309,288 78
		3,367,447 29

POSTMASTERS' QUARTERLY ACCOUNTS CURRENT.

The net revenues of the Department from postages being the aggregate revenues at post-offices for the fiscal year, less the compensation of postmasters and clerks and the contingent office expenses, were :

For the quarter ended September 30, 1883.....	\$6,313,969 82
For the quarter ended December 31, 1883	7,115,124 78
For the quarter ended March 31, 1884	6,604,705 42
For the quarter ended June 30, 1884	6,011,782 06
Total.....	26,045,582 08

The number of quarterly returns of postmasters received and audited, on which the above sum was found due the United States, was :

For the quarter ended September 30, 1883.....	47,029
For the quarter ended December 31, 1883	48,276
For the quarter ended March 31, 1884.....	48,405
For the quarter ended June 30, 1884	48,591
Total.....	192,301

STAMPS SOLD.

The amount of stamps, stamped envelopes and wrappers, newspaper and periodical stamps, and postal cards sold, was :

For the quarter ended September 30, 1883	\$10,083,509 53
For the quarter ended December 31, 1883	10,678,674 22
For the quarter ended March 31, 1884.....	10,302,166 01
For the quarter ended June 30, 1884	9,681,503 90
Total	40,745,853 66
Amount of official stamps furnished the different Departments included in the above amount of stamps sold :	
For the State Department.....	\$2,440 00
For the War Department.....	103,710 26
For the Treasury Department	20,000 00
For the Interior Department	28,000 00
For the Department of Agriculture.....	120 00
Total official stamps.....	154,270 26
Total ordinary stamps sold	40,591,583 40

LETTER POSTAGES.

The amount of postages paid in money was..... \$110,876 02
Included in the above amount are the following sums
paid by foreign countries in the adjustment of their
accounts:

Kingdom of Great Britain and Ireland.....	\$93,742 61	
Dominion of Canada	12,051 13	
Republic of Mexico	2,645 85	
Republic of Chili	70 14	
Republic of Guatemala.....	33 80	
Empire of Russia	2 06	
Republic of Venezuela	234 26	
Kingdom of Norway	3 82	
Kingdom of the Netherlands.....	5 53	
Postal administration of Straits Settlements.....	11 67	
Postal administration of the Bermudas.....	544 73	
Postal administration of New South Wales	253 11	
Postal administration of Curaçoa.....	121 88	
Postal administration of British Honduras	52 87	
Postal administration of Victoria.....	158 20	
Postal administration of Jamaica	735 83	
		110,667 48

Balance collected by postmasters 207 54
The following balances were paid and charged to the
appropriation for balances due foreign countries:

Service of 1884:		
Kingdom of Sweden	\$1,158 75	
Republic of Switzerland	66 19	
International Bureau, Berne, Switzerland.....	669 10	

Total 1884 1,894 04

Service of previous years:		
Kingdom of Belgium.....	11,698 84	
Kingdom of Sweden.....	1,158 75	
Republic of Mexico	607 76	
Colony of St. Thomas (West Indies).....	183 96	

Total for previous years..... 13,649 31

Aggregate amount paid 15,543 35

MAIL TRANSPORTATION.

The amount charged to "transportation accrued" and placed to the
credit of mail contractors and others for mail transportation during
the fiscal year, was:

For the regular supply of mail routes.....	\$21,539,344 17
For the supply of "special" offices.....	54,293 53
For the supply of "mail messenger" offices.....	832,084 06
For the salaries of railway postal clerks	3,072,193 42
For the salaries and expenses of the superintendents of the railway mail service, and the expenses of the commission on railroad trans- portation	59,674 68
Total	26,457,629 86

FOREIGN MAIL TRANSPORTATION.

New York, Great Britain and Ireland, and countries be- yond, via Great Britain	\$156,414 77
New York, Great Britain and Ireland, and Germany, and countries beyond	132,743 03
Philadelphia, Great Britain and Ireland	2,833 20
Boston, Great Britain and Ireland	752 89
Post-Office Department of Canada—English mail.....	175 66

New York, Baltimore, Philadelphia, Boston, Key West, New Orleans, and San Francisco, West Indies, Central and South America, Mexico, &c	\$35,118 82	
New York and Newfoundland	38 05	
Boston and Nova Scotia	258 57	
Baltimore and Bremen	52 69	
Upper Pacific Coast—local mail	1,949 74	
San Francisco, China, Japan, Farther India, Australia, and South Sea Islands	19,125 78	
Expenses of Government mail agent at Panama	840 00	
Expenses of Government mail agent at Shanghai, China.	2,776 55	
		<u>\$353,079 75</u>
Total		26,810,709 61
The amount credited to transportation accrued and charged to mail contractors for overcredits, being for fines and deductions, was	220,380 61	
The amount of fines and deductions remitted was	28,058 01	
		<u>192,322 60</u>
Net amount of fines and deductions		192,322 60
Net amount of transportation accrued		26,618,387 01
The amount paid during the year was		25,359,816 57
		<u>1,258,570 44</u>
Excess of transportation accrued		<u>1,258,570 44</u>

PACIFIC RAILROADS SERVICE.

Included in the above amount of transportation accrued are the following balances for the transportation of the mails over Pacific railroads which have either been certified to the Register of the Treasury or are suspended awaiting a decision as to their final disposition:

Regular service, 1884:

Union Pacific Railway Company (old U. P. R. R. line), aided	\$448,575 16	
Union Pacific Railway Company (old Kans. Pac. line), aided portion	70,428 15	
Lines operated, leased, or controlled by U. P. R. W. Co., non-aided	174,921 04	
Central Pacific Railroad Company, aided portion	212,054 36	
Lines operated, leased, or controlled by C. P. R. R. Co., non-aided	206,658 75	
Sioux City and Pacific R. R. Company, aided portion	12,481 07	
Lines operated, leased, or controlled by S. C. and P. R. R. Co., non-aided	18,559 65	
		<u>\$1,143,678 18</u>

Use of postal cars:

Union Pacific Railway Company (old U. P. R. R. line), aided	61,027 88	
Union Pacific Railway Company (old Kans. Pac. line), aided portion	8,698 22	
Lines operated, leased, or controlled by U. P. R. W. Co., non-aided	3,198 27	
Central Pacific Railroad Company, aided portion	28,467 13	
Lines operated, leased, or controlled by C. P. R. R. Co., non-aided	15,109 83	
		<u>116,501 33</u>

Total service of 1884 not paid

1,260,179 51

Regular service of previous years:

Lines operated, leased, or controlled by C. P. R. R. Co., non-aided	10,391 46	
Total service not paid for	<u>1,270,570 97</u>	

STATEMENT OF THE CONDITION OF ACCOUNTS OF LATE POSTMASTERS.

Balance due the United States brought forward from last report.....	\$355,812 14	
Balance due the United States on account of postmasters becoming late during the fiscal year.....	83,270 50	
		439,082 64
Amount collected during the year	\$116,471 89	
Amount charged to "suspense"	5,457 56	
Amount charged to "bad and compromise debts"	7,864 41	
		129,793 86
Balance remaining due United States		309,288 78
Of which there is in suit	226,467 83	
Not in suit.....	82,820 95	
		309,288 78
Balance due late postmasters brought forward from last report	122,636 33	
Amount becoming due during the fiscal year.....	99,167 22	
		221,803 55
Amount paid during the year.....	79,495 55	
Amount credited to "suspense"	4,866 14	
		84,361 69
Balance remaining due late postmasters.....		137,441 86
Amount in suit June 30, 1883	210,429 08	
Amount submitted for suit during the fiscal year.....	27,050 84	
		237,479 92
Of which there was collected during the year	6,879 21	
Amount otherwise settled	4,132 88	
		11,012 09
Balance remaining in suit		226,467 83
Amount of interest and cost collected in suit against late postmasters and sureties on postal accounts		781 05

Statement exhibiting quarterly the receipts of the Post-Office Department, under their several heads, for the fiscal year ended June 30, 1884.

Accounts.	Quarter ended September 30, 1883.	Quarter ended December 31, 1883.	Quarter ended March 31, 1884.	Quarter ended June 30, 1884.	Aggregate.
Letter postage	\$39,016 15	\$1,021 67	\$47,436 28	\$23,400 92	\$110,875 02
Box rents and branch offices	462,100 37	464,560 56	482,109 97	495,281 67	1,904,052 57
Fines and penalties	3,498 00	5,752 75	1,623 50	10,055 87	21,130 12
Postage-stamps, stamped envelopes and wrappers, and postal cards	10,083,509 53	10,678,674 22	10,302,166 01	9,681,503 90	40,745,853 66
Dead letters.....	1,099 01	2,306 16	3,412 92	2,201 10	9,619 19
Revenue from money-order business				507,323 81	*507,323 81
Miscellaneous.....	6,044 65	7,301 24	6,619 63	7,133 92	27,104 44
Total.....	10,595,867 71	11,159,616 60	10,843,568 31	10,726,906 19	*43,325,958 81

* This amount is \$12,168.27 less than was reported at the date of the annual report of the Postmaster-General. By working the money-order force night and day, what was supposed to be the true amount of the money-order revenues was arrived at and reported, but the final proofs disclosed a discrepancy after the Department report had been submitted and printed. The true revenue for the year is given in the above table.

Statement showing the receipts and disbursements of the money-order offices of the United States during the fiscal year ended June 30, 1884.

RECEIPTS.

Balance in the hands of postmasters June 30, 1883.....		\$1,533,894 26
Amount received for domestic money-orders issued.....	\$122,121,261 98	
Amount received for postal notes issued.....	7,411,992 48	
Amount received for international money-orders issued.....	7,628,776 53	
Total issued.....	137,222,030 99	
Amount received for fees on domestic money-orders issued.....	\$950,065 79	
Amount received for fees on postal notes issued.....	110,282 88	
Amount received for fees on international money-orders issued.....	170,102 35	
Total fees.....	1,230,451 02	
Amount of deposits received from postmasters.....		138,452,482 01
Amount of drafts drawn on the postmaster at New York, N. Y.....		105,890,551 30
Amount transferred from postage fund.....		13,014,879 42
Amount of gain.....		904,238 80
Amount of premiums.....		380 55
Amount of premiums.....		33 05
Balance due postmasters.....		13,740 06
Total receipts.....		259,810,200 05

DISBURSEMENTS.

Amount of domestic money-orders paid.....	121,101,697 03	
Amount of postal notes paid.....	7,155,379 52	
Amount of international money-orders paid.....	3,537,539 33	
Total paid.....	131,794,615 88	
Amount of domestic money-orders repaid.....	\$269,385 77	
Amount of postal notes repaid.....	98,746 42	
Amount of international money-orders repaid.....	33,524 04	
Total repaid.....	1,001,656 23	
Amount of drafts paid by postmaster at New York, N. Y.....	12,989,226 50	
Amount deposited at first-class offices.....	110,284,058 40	
Amount transferred to postage fund.....	1,098,301 90	
Amount of loss.....	16,614 51	
Amount paid for expenses.....	138,372 88	
Amount paid for commissions on postal notes.....	40,278 77	
Amount paid for commissions on money-orders.....	345,925 23	
Amount paid for clerk-hire.....	299,371 04	
Miscellaneous items.....	14,675 25	
Balance in the hands of postmasters June 30, 1884.....	1,787,103 46	
Total disbursements.....		259,810,200 05

No. 14.—Statement showing the revenue which accrued on domestic money-order transactions for the fiscal year ended June 30, 1884.

Amount received for fees on issued money-orders.....	\$950,065 79	
Amount of gain.....	380 55	
Amount of premiums, &c.....	33 05	
		950,479 39
Amount allowed postmasters—		
For commissions on money-orders.....	\$337,985 16	
For clerk-hire.....	247,618 07	
For incidental expenses.....	100,386 06	
For lost remittances and burglaries.....	11,037 68	
For bad debts.....	5,576 83	
Net revenue.....	247,875 59	
		950,479 39

No. 15.—*Statements showing the revenue which accrued on postal-note transactions for the fiscal year ended June 30, 1884.*

Amount received for fees on issued postal notes.....	\$110,282 88
Amount allowed postmasters—	
For commissions	\$40,278 77
For clerk hire.....	4,271 34
For incidental expenses	31,839 38
Net revenue	33,893 39
	<hr/> 110,282 88

RECAPITULATION OF NET REVENUE.

On domestic money-order transactions for the fiscal year ended June 30, 1884	247,875 59
On postal-note transactions for the fiscal year ended June 30, 1884.....	33,893 39
On international transactions with—	
Canada:	
For fiscal year 1883	\$8,361 91
For fiscal year 1884	10,360 71
Great Britain and Ireland:	
For fiscal year 1883	59,717 69
For fiscal year 1884	42,195 75
Germany:	
For fiscal year 1883	33,207 49
For fiscal year 1884	15,249 46
Switzerland:	
For fiscal year 1883.....	6,846 09
For fiscal year 1884.....	5,031 02
Italy:	
For fiscal year 1883.....	18,164 76
For fiscal year 1884	20,949 61
France:	
For fiscal year 1883	1,777 74
For fiscal year 1884.....	2,097 83
Jamaica:	
For fiscal year 1883	91 21
For fiscal year 1884	194 08
New Zealand:	
For fiscal year 1883	167 61
For fiscal year 1884	53 97
New South Wales:	
For fiscal year 1883.....	112 75
For fiscal year 1884.....	61 42
Victoria:	
For fiscal year 1883.....	94 66
For fiscal year 1884.....	70 61
Belgium:	
For fiscal year 1883.....	123 73
For fiscal year 1884	263 52
Portugal:	
For fiscal year 1884.....	106 38
Tasmania:	
For fiscal year 1884.....	4 02
Hawaii:	
For fiscal year 1884.....	262 20
	<hr/> 225,566 22
Less loss in transactions with Tasmania in 1883	11 39
	<hr/> 225,554 83
Total net revenue.....	<hr/> 507,323 81

I deem it proper to state that the delay in submitting this report has been occasioned by the increase in the business of the money-order branch of this office during the past and previous years, the establishment of the postal-note system, and an insufficient clerical force. It has been exceedingly difficult for the present force, by extraordinary diligence, to dispose of the money-order and postal-note business of the

office so as to make the report even at this late date. The estimates for the service of this office for the fiscal year ending June 30, 1886, submitted to the Secretary of the Treasury, contain items of increase which, if granted by Congress, will enable the office to promptly render the next annual report.

My predecessor, in his last report, called the attention of the Postmaster-General to the necessity for an increase in the accommodations allotted to this office both in the Department building and in the rented building at the corner of Eighth and E streets northwest.

At the last session of Congress unsuccessful attempts were made to obtain an appropriation and authority for renting an additional building in the vicinity of the Department.

The necessity for more room is constantly increasing with the establishment of new money-order offices, with the increase in the number of clerks and employes, and the growing accumulation of books, statements, vouchers, and files; and I venture to urge that the attention of Congress be again called to this matter. Although in my report to the Secretary of the Treasury this subject has been mentioned, it is presented particularly to you, because, since the establishment of this Bureau, its office accommodations have been provided by the Post-Office Department.

Very respectfully,

R. F. CROWELL,
Auditor.

Hon. FRANK HATTON,
Postmaster-General.

REPORT OF THE COMMISSIONER OF AGRICULTURE.

DEPARTMENT OF AGRICULTURE,
Washington, D. C., November 10, 1884.

To the PRESIDENT:

I respectfully submit a statement of the work done in the Department of Agriculture during the year 1884.

During the year the duties of the Department have largely increased. The extension of the work of the Bureau of Statistics has furnished the chief a large amount of matter, which he has with great diligence and skill reduced to statistical form and embodied in a monthly report, which has attracted great attention both in this country and in Europe. In addition to Mr. Moffatt, who reports from London upon the trade and industry of Europe, there are ten thousand correspondents of this Department in this country, who are constantly furnishing the materials for the statistical estimates of the Bureau. The establishment of a Bureau of Animal Industry in the Department has also added very largely to its duties, and the work required by it has been most satisfactorily performed. The Bureau of Entomology has been most efficiently represented abroad by its chief, and its investigations in this country have been conducted with great care and success. I submit extended statements of the work of these several bureaus.

BUREAU OF ANIMAL INDUSTRY.

This Bureau, established by act of Congress approved May 29, 1884, has been organized during the year, and it is now in active and efficient operation. Investigations have been made in regard to the extent, nature, and means of combating outbreaks of communicable diseases among the domesticated animals of the country in the States of Maine, Connecticut, New York, New Jersey, Pennsylvania, Maryland, Virginia, Tennessee, Kentucky, Ohio, Indiana, Illinois, Missouri, Kansas, Arkansas, and Texas. While the prevalence of such diseases is probably not much in excess of what it has been in previous years, the organization of the Bureau has led to a greatly increased number of

demands for information on the subject, and the existence of dangerous diseases has been more promptly and fully reported than heretofore.

Scientific investigations in regard to the nature and cause of contagious diseases among animals have been constantly in progress, and are throwing much light on the difficult problems which are encountered by those who practically attempt to reduce the ravages of these plagues. An extended microscopic investigation of American pork has been made to learn what foundation there was for the charge of trichinous infection which has been brought against it in Europe.

A great mass of information has been collected in relation to the development and needs of the various branches of the live-stock industry, with a view of enabling the owners of animals of all kinds to escape preventable losses, and to direct their efforts in the most promising direction.

The practical direction of the quarantine system, which was transferred to the Department of Agriculture by the Secretary of the Treasury in accordance with a recent act of Congress, has been made one of the duties of this Bureau. The professional knowledge of the chief, who must be a competent veterinary surgeon, taken in connection with the information which is being continually received by this Bureau as to the presence of contagious diseases in those foreign countries from which we import cattle, and the most advanced methods of controlling these diseases, makes it peculiarly appropriate that the protection of American cattle from imported diseases should be in the same hands.

In a word, the labor of this Bureau has been directed to prevent and control communicable diseases among animals in this country, to prevent the importation of such plagues from abroad, and to collect such information as is valuable to the stock-grower and necessary to the profitable development and conduct of our animal industries, and to enable us to secure free entrance for our animal products into the markets of the world.

Congress has provided for the publication of fifty thousand copies of the first annual report of the Bureau of Animal Industry. This report will be issued simultaneously with this volume, and will contain a vast amount of information of great value to breeding, rearing, and the general traffic in live stock.

GARDENS AND GROUNDS.

The work of this division consists, in part, in introducing, propagating, and distributing economic plants, particularly of such kinds as seem worthy of trial and experiment, both in regard to congenial climates and their probable value as furnishing economic industries. Work of this nature is necessarily of a tardy character, and at best is likely to be somewhat limited in useful results.

Testing new varieties of what are known as small fruits has been a prominent and popular feature of the work of this division, but it is

now almost abandoned on account of the abridged area which can be devoted to culture, and also for the important reason that the exposed condition of the grounds and their proximity to the city offer facilities to depredators to destroy plants and rob them of their fruits before they can reach a degree of maturity necessary to decide upon their merits. The small area of arable land, which is yearly encroached upon by the erection of necessary buildings, limits the facilities of propagating and cultivating plants for distribution; but the most is made of it, and, together with the glass structures used for the purpose, an average of 100,000 plants of various kinds are annually produced and distributed.

Among the most notable introductions and additions to our standard orchard fruits, the Japan persimmon may be mentioned. Satisfied as to the superior value of this fruit, wherever it can be planted in a suitable climate, importations have been made from time to time, and for several years past, from its native country. The earliest of these importations, made some fifteen years ago, were disseminated over a wide range of territory, in order to fully test the hardiness and fruiting capacity of the plants in different climates and localities. After this had been virtually determined, the more recent and more valuable importations have been distributed only in localities where the plants can survive in all seasons, and where the fruit can be produced in perfection. This fruit is now being extensively propagated and planted with a view to profitable culture, and it is quite probable that in a few years it will be familiar in our markets.

The citrus family of plants has been and is receiving considerable attention. The constant inquiries for information regarding oranges, lemons, limes, &c., and the demand for plants, has been met as far as the Department has been able to do so. Various importations have been made of the best varieties obtainable in other countries. A small but choice variety, known as the Tangierine, was early introduced, and has become very popular and of much commercial value in orange-growing localities. Subsequently, plants of a variety imported from Bahia were distributed about twelve years ago, and in California it is regarded and recognized as the most valuable orange produced in that State. It is known in commerce as the Washington Navel orange, in order to distinguish it from other Navel oranges, of which there are numerous varieties. Another valuable kind, imported from Europe, is named *Melitensis*. This variety has not been largely distributed as yet, but is expected to prove to be distinct, valuable, and popular when better and more extensively known.

The importation of Russian apple-trees was made some years ago by the Department, scions of which were very extensively distributed to nurserymen and others, and are now receiving much attention, as the collection includes many varieties which are considered by orchardists to be of great value in regions where apple culture had hitherto proved unprofitable. These hardier kinds resist much cold, and have

therefore been instrumental in extending the culture of this fruit into northern regions where other varieties have failed.

Native grapes and strawberries are propagated to some extent. These are mostly distributed in newly-settled localities, and, as they bear fruit at an early age, are specially useful in introducing fruit culture among pioneer farmers.

The records of this Department indicate that the commencement of fruit culture in States now famous for their productions in this line has been significantly due to the early distribution of plants through its agency.

The progress of the tea plants at the station near Summerville, S. C., is reported by the superintendent as being perfectly satisfactory. The plants are now large enough to afford, during the early summer of next year, leaves in sufficient quantities to warrant an effort at tea manufacture, if such an operation may be deemed necessary.

That the Chinese tea-plant can be grown over a large portion of the United States, and that good teas have and can again be made from such plants, are facts which are not matters for dispute or surmise; but whether teas can be produced of standard qualities to meet the requirements of commerce, and in sufficient quantities and at a cost which will be profitable to the planter and to the manufacturer at the prevailing prices of that commodity, are questions which have not been practically demonstrated on a proper scale. But the factors of successful tea production in other countries are well understood; and it is equally well recognized that in some essential conditions (a principal one being a deficiency in the average rainfall) there is sufficient reason for caution in planting the large area which makes success possible even in the most favorable climates. The capability of growing the plant has not for half a century back been a question of doubt in all localities where the thermometer does not reach a lower point than from eight to ten degrees above zero.

The demand for semi-tropical and tropical plants, from residents of the warmer climates of this country, increases yearly. These demands are somewhat perplexing, for the reasons that seeds of the plants called for are rarely to be found in commerce, and are therefore difficult to procure in reliable condition; and, again, demands are made for many species of plants which the Department is perfectly well convinced cannot be grown advantageously in any part of the United States.

The hardiness of tropical plants depends upon the altitude of their native habitats. Altitude and latitude are almost synonymous terms in plant life. Tropical plants, if taken from high altitudes on mountain slopes, will stand severe colds and even frosts, and are therefore fitted to grow in what might be comparatively quite northern latitudes.

The climates of the United States are peculiar in the respect that even the most northern State has a summer, more or less lengthy, which is strictly tropical in its temperature. During this period the

thermometer will average as high a range as in strictly tropical countries. This tropical period lengthens as we proceed southward, until Southern Florida is reached, where it extends to about eleven months out of the twelve which constitute the year. But this period, more or less, of cool weather, liable to an occasional freeze, is sufficient to to destroy all vegetation which is strictly tropical in its nature. It is therefore only by experimental tests that the adaptability of plants to climates or locations other than their native ones can be truly demonstrated. With this view, it is proposed to continue the introduction, as far as practicable, of all plants whose economic value entitle them to recognition.

BUREAU OF STATISTICS.

With the increase of area in cultivation and of variety in production the work of collecting statistics of agriculture in this country is constantly enlarging. The rapidity of agricultural progress and the local irregularities of its movement tend to increase its difficulty and diminish its accuracy; on the other hand, a growing public appreciation of its importance is a means of higher efficiency, as well as its surest guarantee.

The field work of this branch of the department service is obviously a matter of observation, comparison, and estimate, and not an actual count of a census. The swift changes of the alternating seasons must be summed up with instant celerity; their effects on ultimate production must be discounted with practicable closeness before the crops are matured. An accurate report of a harvest as soon as it is gathered is stale news for the public or interested buyers. It is the aim of the Statistician to keep abreast of the expectations of the day in instantaneous crop reporting. There are nearly ten thousand selected observers in the ranks of the reporters to the Department and to the State agents, who are selected with reference to their judgment and means of local observation. They are officers of agricultural societies, or men of mark in agricultural experience and general intelligence. Their accuracy and reliability are manifestly enlarged with increasing experience. This is attested by their returns, which exhibit greater unity and reasonableness of statement from year to year. Formerly the averages of returns of yield per acre were uniformly too high; now they approach a figure that is nearer the test of actual measurement. The prevalent custom of averaging the actual results of the harvest, as in the case of thrashers' records, is one means of aiding the public judgment of what an average really is. There are many evidences of a better understanding among farmers of the value and necessity of agricultural statistics to themselves, to the consuming masses, to political economy and the science of government.

It would be impossible to realize the development of our agriculture without the aid of statistical investigation, which shows, according to the report of the Statistician, that in two decades, between 1860 and

1880, the value of meats increased from \$300,000,000 to \$800,000,000; of corn, from \$360,680,878 to \$694,818,304; of wheat, from \$124,635,545 to \$436,968,463; of hay, from \$152,671,168 to \$409,505,783; of dairy products, from \$152,350,000 to \$352,500,000; of cotton, from \$211,516,625 to \$271,636,121, and other products in proportion, more than doubling the aggregate of value, increasing it from \$1,600,000,000 to \$3,600,000,000 in round numbers. With good prices the current production of the agriculture of the United States can be little short of four billions of dollars; and the values are those of the home markets, and not of the eastern commercial cities or ports of exportation.

The investigations of the past year show a tendency to farther increase of the area of corn and cotton and of most of the principal crops of the country. The wheat area is so much beyond the requirements of consumption in this and other countries as to depress the price to a point unprecedented in recent years, favoring at certain points the use of wheat in feeding for pork production. The cause of this superabundance is two-fold—first, the extension of settlement in the northwestern prairies and the dry plains of the Pacific coast; and, second, the extraordinary period of comparative failure of European wheat for several consecutive years. The progress of settlement must be less rapid hereafter, and already the lean years of Europe have been followed by comparative plenty.

These facts of products and prices point to the sharp necessity of adapting production to consumption, to supply food products now imported, to give remunerative employment to agricultural labor and food in variety, and cheapness to consumers.

The present year's history of crop growth, in the records of this Bureau of the statistics of agriculture, indicates a production above the average, a season of peculiar prosperity, with no serious failures. Drought alone, in a portion of the producing area, has wrought some reduction of the rate of yield. The cotton crop has been somewhat injured by this cause, yet the crop promises nearly 6,000,000 bales. Corn apparently averages about 26 bushels per acre, which is about the average of the prior period of ten years, giving a crop not heretofore exceeded in absolute quantity. Wheat has made a yield of fully 13 bushels per acre, and a product exceeding 500,000,000. The supply of cereals will average fully 50 bushels for each inhabitant. Potatoes of both kinds are fairly abundant, and other products generally in full supply. Altogether, the year is one of positive, if not exceptional, fatness.

This Bureau has been active during the year in the work of collecting and co-ordinating the official statistics of State departments, boards of agriculture, and of commercial organizations, and exploring the domain of fact in all departments of agricultural effort and experiment. In addition to the work of our duplicate system of domestic crop-reporting, the effort to obtain early information of European crop production

and supply has been successful. Our agent in London is gradually extending and perfecting his machinery for collection of desired and prompt information. The Division of Railroad Transportation has also been efficient in the work of reporting changes of rates of transportation, to which it was assigned by direction of Congress.

BUREAU OF BOTANY.

During the past year the work of this Bureau has been prosecuted with vigor.

Very numerous inquiries from correspondents of the Department relating to plants, seeds, fruits, grasses, &c., have been properly considered and answered.

An increased interest in the subject of agricultural and other grasses has been manifested, and numerous inquiries have been received from different parts of the country for such information on that subject as would enable farmers and others to obtain a knowledge of the common cultivated and wild grasses occurring in the various sections of the country. In order to meet this demand, the botanist has prepared a pamphlet on the "Agricultural grasses of the United States," to which is added a paper on their "Chemical composition," by the assistant chemist, and this pamphlet has been published by the Department. It is believed that this work will supply a widely-felt want on this subject.

The work of improving and perfecting the herbarium has been steadily carried forward, and very important additions have been made to it by contributions, exchanges, and purchases. One large box of botanical specimens has been received from the Museum of Natural History of Paris, France. One box containing over 800 specimens has been forwarded to the same institution. Also, one box of 800 specimens has been sent to the Royal Herbarium of St. Petersburg, Russia, and other packages to prominent specialists in Europe and this country.

The work of distribution of our duplicate specimens to agricultural colleges and other institutions of learning has been continued. Among those to whom such duplicates have been sent are the following: The Colorado Agricultural College, at Fort Collins; the Ogontz School, Montgomery County, Pennsylvania; the Hillsdale College, Michigan, and the Media Academy, Media, Pa. Several boxes of sections of our native woods have been distributed as follows: One box to the Perkins Institution for the Blind, Boston; one box to the Media Academy, Media, Pa.; one box to Hillsdale College, Hillsdale, Mich.; one box to the Northwestern University, Evanston, Ill.; and one box to P. H. Dudley, esq., New York City.

BUREAU OF CHEMISTRY.

During the past year the Bureau of Chemistry has been engaged in the following investigations and miscellaneous work:

1. A continuation of the study of American cereals with reference to *the composition* of the grains, their relation to moisture, variation in

size, &c., as influenced by environment. The effect of differences in rainfall and temperature in different seasons produces a greater change in the composition of the grain than peculiarities of soil.

2. A study of the "Roller Milling Process" for the manufacture of flour, especially with reference to the hard spring wheats of the Northwest. The results comprise both a physical and chemical examination, and are of considerable interest.

3. A series of baking experiments with flours of different grades from all parts of the country. The result of this investigation has been to show that the weight of bread produced from a given weight of flour is almost entirely dependent on the percentage of moisture in the flour rather than upon the quality or the amount of gluten in it. These experiments were conducted, primarily, for comparison with those of the McDougal Brothers in England a short time ago, which did not result very favorably for American flours as regards quantity. Our results show a much higher yield than was found abroad. The preceding work has been published in detail in Bulletin No. 4 of this Bureau.

4. The examination of American dairy products, begun last year, has been continued. Some of the results will be found in the report of the Chemist.

5. An extended investigation of maple sugars and maple sirups has been completed; showing the presence of numerous spurious or adulterated articles in the market.

6. An investigation of a series of soils from Louisiana and some other parts of the country, with a view to their exhibition at New Orleans at the World's Cotton and Industrial Exposition.

7. A study of the sugar industry of the country, including experiments and practical work with sorghum here and in Indiana, Illinois, Wisconsin, and Kansas, and an examination of the status of the beet-sugar industry on the Pacific coast. The Department has also established a laboratory on a plantation in Louisiana for the purpose of making a thorough chemical investigation of the processes there employed in the manufacture of sugar.

8. The miscellaneous work increases very largely every year, and our facilities are hardly equal to the amount which must be done. Since our last report between two and three hundred analyses of fertilizers, marls, minerals, mineral waters, well waters, ensilages, hay, and other fodders, have been completed, in addition to our regular work. The consideration of the advisability of erecting a building suitable for the use of the Bureau cannot, in view of these facts, be long delayed.

BUREAU OF ENTOMOLOGY.

The work of this Bureau continues in its various lines of usefulness, and attracts increasing attention from all parts of the country. The various investigations previously inaugurated have been continued where not already completed, while others have been instituted and

carried on not only at the Department, but in several different parts of the country by special agents, and notably in California, Nebraska, Indiana, New York, Massachusetts, Rhode Island, and Maine. Important discoveries have been made as to the insect destruction of forest trees in Maine, the enemies of the cranberry and hop crops, those affecting wheat and small grains in the West, and those affecting the orange and other fruit trees. These will be found recorded in the report of the Entomologist. Two special bulletins, containing some of the more practical results of these investigations, have been published during the year, and the fact that the chief remedies and insecticide appliances now quite generally employed with satisfaction, and constantly discussed and recommended in the agricultural press, have originated during my administration of the Department very well illustrates the original and useful character of the work emanating from this Bureau. While much knowledge of a purely scientific character is naturally acquired, I feel that the chief end of the Bureau should be to teach the farmer to save as much as possible of the loss which he often sustains from insect injury. The present Entomologist fully appreciates this position, and has eliminated, as far as possible, such technical descriptions as would not be appreciated by the mass of intelligent farmers.

During the year various questions relating to the Phylloxera have been referred to the Department through the Secretary of State, questions that have chiefly grown out of the treaty of Berne, which has caused much unnecessary delay and loss to both importers and exporters of nursery stock, for it has been shown that there is no good reason for detaining such stock at the port of New York when destined for any part of the country east of the Rocky Mountains. The use of kerosene emulsion as a remedy for this underground vine pest, proposed by the Entomologist a year ago, after due experiment, has attracted much attention, and, upon invitation of the French minister of agriculture, I sent Professor Riley to Europe during the summer to demonstrate his proposed methods of dealing with the insect, and to learn what he could that would be of benefit to our people, as to the present status of the American vines in France, and of the Phylloxera question in general. He also studied certain practical features of silk culture upon which we needed more exact knowledge, and visited the International Forestry Exhibition at Edinburg. It is pleasant to know that while much information that will be useful to us has thus been obtained, the benefit has been mutual, to judge by the appreciative manner in which the recommendations of the Entomologist were received, and the honor conferred on him as a delegate from the Department. In advanced agriculture all civilized nations have to-day so many interests in common that increasing reciprocal relations become necessary.

The Bureau has continued its labors for the promotion of silk culture in the United States during the past year, and has been greatly aided by the sum of \$15,000 appropriated at the last session of Congress for

the encouragement and development of the industry. Prior to July 1 the work in connection with this subject was performed by the ordinary force of the Bureau and manuals of instruction, and silk-worm eggs were distributed to applicants in all parts of the country. In accordance with the act appropriating the sum above named, I have appointed a special agent, who, under the direction of the Entomologist, will devote his whole time to the investigation of all subjects relating to "the culture and raising of raw silk." These include, among others, an examination into the extent of the interest already shown in the industry by the people of the United States; the climatic adaptability of our country to this art, and its present sericultural resources. To these may be added a study of the means employed abroad to encourage silk raising, in which study the division has been greatly aided by certain valuable reports made by our representatives abroad to the honorable Secretary of State.

Arrangements have been made for the continuation of the distribution of literature, silk-worm eggs, and mulberry trees to all such as may desire them during the coming year, and to further the establishment of profitable reeling.

A new impetus has thus been given to silk culture by the late act of Congress, and the industry seems in a fair way to be added to the list of those which, though at one time considered essentially foreign, have become so successful in our country.

The Entomologist has also prepared for the exposition at New Orleans an elaborate collection of injurious and beneficial insects; of the chief insecticides and insecticide machinery and appliances, together with an exposition of bee culture and silk culture.

BUREAU OF FORESTRY.

The work of this division has been prosecuted during the present year on the plan adopted by me in the reorganization of the division. Through the agents in the field circulars of inquiry have been sent out, more especially to those parts of the country deficient in a natural growth of trees, asking information as to the kind of trees the planting of which has been attended with success, as well as those the planting of which has been followed by failure, and the causes of such failure. To a large percentage of these circulars, amounting to many thousands, replies have been made. This information is now in the hands of the printer and will soon be available for public use. Its publication will be of great economic value to the country by enabling those engaged in tree planting, the number of whom is rapidly increasing, to avoid the mistakes and consequent losses which have hitherto occurred for lack of the knowledge thus given, and which have often been so discouraging to the planter.

The agents of the Bureau have also been making personal observations in regard to important subjects connected with the growth and preservation of our forests, the results of which have been reported to the division and will be given to the public.

While the destruction of our forests is going on at a constantly increasing and alarming rate, it is gratifying to know that the work of planting trees for wind-breaks and for forest purposes is rapidly increasing, especially in some of our western States and Territories. From Nebraska, for instance, we have trustworthy information that not fewer than 4,500,000 trees have been planted during the present year, and more than two thousand bushels of walnut and other tree seeds. Constant inquiries by letters from all parts of the country are made of the division in regard to tree-planting, requiring much time for the proper replies, but clearly showing the useful place which such a division holds.

Continued investigations have been made in regard to the consumption of the forests both for legitimate purposes and by fire. The consumption for the manufacture of lumber is increasing in a greater ratio than is warranted by the increase of population and the consequent natural demand. The lumber market is largely overstocked, and the process of manufacture continues to be conducted in a wasteful manner, when the rapidly decreasing source of supply calls for the utmost economy of material. At a recent convention of lumbermen at Chicago, representing an estimated capital of \$500,000,000, and called for the purpose of improving the condition of the market by securing a check in the rate of production, it was stated that the stock of lumber then on hand was sufficient to supply all legitimate demands for eighteen months if not another tree should be cut or sawn.

But the convention was unable to effect any agreement for the curtailment of production, and it was left to go on as individual interest should determine. So far, therefore, as the forests of the country are in private hands, there seems little reason to hope that their rapid consumption by the ax and by fire can be checked. In one of our States, owing to the laws regulating the assessment of taxes, we are able to ascertain the amount of forests relatively to the whole area of the State from year to year for thirty years past. The official returns from that State show a steady diminution of the forest area during that period, and not only in the State as a whole, but in every county, with a single exception.

The great pine forests of the Northwest are now depleted to such an extent that the Southern pine is brought into competition with it in the Chicago market, and perceptible inroads have already been made upon those vast forests which cover so large a portion of the Gulf States. The same reckless and wasteful methods of lumbering are pursued there which have so rapidly consumed the Northern and Western forests.

This condition of things makes more imperative every year the endeavor to preserve the forests which form a part of the public domain, and so to guard and control them by law as to make them of greatest and most lasting benefit to the country.

Since the appropriation was made by Congress for the purpose of aiding the Centennial Exposition at New Orleans, this Bureau has been engaged in the endeavor to exhibit one of the practical and economic aspects of forestry by securing for that exposition specimens of the manufactured products of the forests. For this purpose wood-working factories in various parts of the country have been visited or have been reached by means of correspondence, and as the result a great variety of articles of most useful and interesting character have been secured, which, when brought together, cannot fail to impress the beholder with a new sense of the value and importance of our woodlands. From the toy that amuses the child on the floor to the ship that breasts the ocean storms in interchanging the commodities of the nations, the forests will thus be seen to minister to us in ways almost innumerable.

An instructive contribution to the New Orleans Exposition will also be made by the Bureau in the form of a grove of living trees transplanted from the arid region of the West, where it has been held that trees could not be made to grow on account of the limited amount of rainfall. This transplanted grove will be an ocular demonstration that the establishment of trees both for ornamental and forest purposes can be pushed much farther along the dry western plains than has been supposed, and will be a great encouragement to their settlement.

DEPARTMENTAL REPORTS.

Congress, at its last session, provided for the printing of 400,000 copies of the Annual Report of the Department, and also for the printing of 50,000 copies of the First Annual Report of the Bureau of Animal Industry. The following-named special and miscellaneous reports have been issued by the Department during the current year:

BUREAU OF STATISTICS—NEW SERIES.

	No. copies printed.
No. 4. Report upon the numbers and values of farm animals, on certain causes affecting wages of farm labor, and on freight rates of transportation companies. February, 1884, 56 pp., octavo.....	11,000
No. 5. Report on the distribution and consumption of corn and wheat, and the rates of transportation of farm products. March, 1884, 44 pp., octavo	11,000
No. 6. Report of the area of winter grain, the condition of farm animals, and freight rates of transportation companies. April, 1884, 48 pp., octavo	11,000
No. 7. Report of the condition of winter grain, the progress of cotton planting, and estimates of cereals of 1883, with freight rates of transportation companies. May, 1884, 36 pp., octavo	13,000

	No. copies printed.
No. 8. Report of acreage of spring grain and cotton, the condition of winter wheat, and European grain prospects, with freight rates of transportation companies. June, 1884, 40 pp., octavo	11,000
No. 9. Report on the area of corn, potatoes, and tobacco, and the condition of growing crops, and on rates of transportation. July, 1884, 60 pp., octavo	12,000
No. 10. Report on the condition of growing crops and on rates of transportation. August, 1884, 36 pp., octavo	13,000
No. 11. Report on condition of crops, on wheat in India, and on freight rates of transportation companies. September, 1884, 88 pp., octavo..	13,000
No. 12. Report on condition of crops, yield of grain per acre, and on freight rates of transportation companies. October, 1884, 44 pp., octavo.	13,000

ENTOMOLOGICAL BUREAU.

Bulletin No. 4.—Reports of observations and experiments in the practical work of the division, made under the direction of the Entomologist, together with extracts from correspondence on miscellaneous insects. January, 1884, 102 pp., octavo	3,000
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CHEMICAL BUREAU.

Bulletin No. 2.—Diffusion—its application to sugar-cane, and record of experiments with sorghum in 1883. By H. W. Wiley, Chemist. January, 1884, 36 pp., octavo	5,000
Bulletin No. 3.—The Northern sugar-cane industry. A record of its progress during the season of 1883. By H. W. Wiley, Chemist. April, 1884, 120 pp., octavo. Accompanied by isothermal charts	3,000
Bulletin No. 4.—An investigation of the composition of American wheat and corn. Second report. By Clifford Richardson, Assistant Chemist. September, 1884, 98 pp., octavo	2,500

BOTANICAL AND CHEMICAL BUREAUX.

The Agricultural Grasses of the United States. By Dr. George Vasey, Botanist of the Department of Agriculture. Also, the chemical composition of American grasses. By Clifford Richardson, Assistant Chemist. July, 144 pp., octavo, accompanied by 120 full-page engravings of American grasses	3,000
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MISCELLANEOUS.

Proceedings of a National Convention of Cattle Breeders, and others, called in Chicago, Ill., November 15 and 16, 1883, by Hon. George B. Loring, Commissioner of Agriculture, to consider the subject of contagious disease of domestic animals. 86 pp., octavo	5,000
Special Report No. 3.—Mississippi: its climate, soil, productions, and agricultural capabilities. By A. B. Hurt, special agent. 80 pp., octavo....	10,000
Special Report No. 4.—The climate, soil, physical resources, and agricultural capabilities of the State of Maine, with special reference to the occupation of its new lands. By Samuel L. Boardman, State agent of Maine for the Department of Agriculture. 60 pp., octavo.....	6,000
Special Report No. 5.—The proper value and management of timber lands, and the distribution of North American forest trees, being papers read at the United States Department of Agriculture, May 7 and 8, 1884. 48 pp., octavo	10,000

SEED BUREAU.

Tabulated statement showing the quantity and kind of seeds issued from the Seed Bureau, Agricultural Department, under the general appropriation act of Congress, from July 1, 1883, to June 30, 1884, inclusive.

Description of seeds.	Varieties.	Senators and Members of H. of R.	Statistical correspondents.	State correspondents.	Miscellaneous applicants.	Grand total.
		Packages.	Packages.	Packages.	Packages.	Packages.
Vegetables	128	2, 033, 407	131, 423	40, 670	146, 035	2, 351, 535
Flowers	131	329, 135	101, 760	29, 325	103, 418	563, 038
Herbs	21	.....	50	.....	199	249
Tobacco	5	105, 451	401	1, 735	7, 084	114, 671
Tree	1	465	189	20	1, 056	1, 680
Sunflower	1	220	.....	.....	345	565
Opium poppy	1	.....	.....	.....	86	86
Pyrethrum	3	.....	9	.....	228	237
Field seeds:						
Wheat	6	41, 862	19, 264	486	7, 678	69, 290
Oats	2	6, 621	46	.....	3, 210	9, 877
Corn	4	19, 062	82	1	1, 171	20, 266
Barley	1	4	12	.....	258	274
Buckwheat	1	391	62	8	288	749
Potatoes	2	7, 619	4, 162	16	432	12, 229
Rye	1	.....	.....	.....	1	1
Sorghum	8	8, 576	21, 122	150	4, 511	34, 359
Turnip	7	347, 482	78, 376	.....	.....	425, 858
Sugar beet	2	.....	6	.....	100	106
Mangel-wurzel	2	2	.....	.....	60	62
Grass	2	6, 062	63	10	2, 099	8, 834
Clover	4	897	68	5	648	1, 618
Cow-pea	5	.....	.....	2	137	139
Artichoke	1	.....	856	.....	8	864
Millet	1	4, 441	22	4	445	4, 912
Rice	1	.....	18	.....	84	102
Textile:						
Cotton	1	433	14	18	101	566
Hemp	2	.....	.....	.....	16	16
Flax	1	.....	.....	.....	2	2
Jute	1	.....	.....	.....	8	8
Ramie .....	.....	.....	.....	.....	.....	.....
Grand total .....	.....	2, 912, 730	357, 905	72, 450	279, 653	3, 622, 738

The following table exhibits in a condensed form the appropriations made by Congress for this Department, the disbursements, and unexpended balance for the fiscal year ending June 30, 1884 :

Object of appropriation.	Amount appropriated.	Amount disbursed.	Amount unexpended.
Salaries	\$127, 640 00	\$127, 639 87	\$0 13
Collecting statistics	80, 000 00	.....	.....
Laboratory	*16, 842 18	16, 829 26	12 92
Purchase and distribution of seeds, &c	75, 000 00	74, 986 48	13 52
Experimental garden	7, 500 00	7, 486 21	13 79
Museum	1, 000 00	993 51	6 49
Furniture, cases, and repairs	6, 000 00	5, 998 82	1 18
Library	1, 500 00	1, 439 86	60 14
Investigations as to insects, &c	20, 000 00	19, 704 86	295 14
Investigating the diseases of swine	25, 000 00	24, 011 85	988 15
Reclamation of arid and waste lands	*17, 656 13	16, 286 89	1, 369 24
Report on forestry	10, 000 00	9, 998 30	1 70
Postage	4, 000 00	3, 841 48	158 52
Contingent expenses	14, 000 00	13, 991 43	8 57
Improvement of grounds	8, 000 00	7, 962 67	37 33
Building (greenhouse)	2, 500 00	2, 500 00	.....

* Including unexpended balance of appropriation for 1883.

Very respectfully,

GEO. B. LORING,
Commissioner of Agriculture.

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